# Hummel


1



**RYTON PUBLICATIONS**

P.O. Box 2306 Bellingham, Wa. 98227 U.S.A.

Printed in Korea by Samhwa Printing Co., Ltd.

**15 cm s.F.H. 18/I(sf) "Hummel" (Sd.Kfz. 165)**

# Hummel

by

Robert Johnson

## VOLUME 1

Ryton Publications

Mechanics apply finishing touches to a completed vehicle. The coal plant in the background provided the factory's energy needs. This seemingly idyllic scene betrays the high level of production inside the factory. The Hummel in the background lacks the upper superstructure and howitzer.

**Panzerfeldhaubitze "Hummel"**

15 cm schwere Feldhaubitze 18/1 auf (Sf.) III/IV "Hummel"

The original plans for the German Panzerdivisions called for light-and heavy batteries of Panzer artillerie (armored artillery) to provide indirect fire support for the advancing elements of Panzer and Panzergrenadiere. Not until late 1942 did the first Selbstfahrlafetten (self propelled gun) reach the Front.

The first vehicle to be delivered to the Pz.Div. was the 10,5 cm leichte Panzerhaubitze 18/2 auf Fgst. Pz.Kpfwg. II (Sf.) (Sd.Kfz.124) "Wespe" (Wasp) to make up the batteries of the light artillery. It was based on the chassis of the obsolete Panzerkampfwagen II (2 cm) (Sd.Kfz. 121), mounting standard leichte Feldhaubitze 18/2 (light howitzer), minus the carriage and trails.

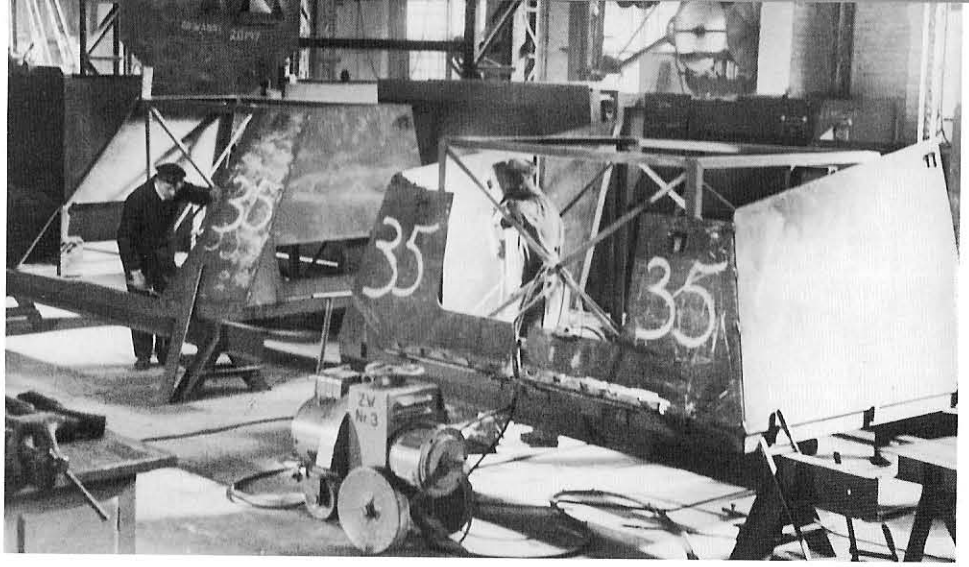
The vehicle that formed the backbone of the motorized artillery supporting the Panzer Korps heavy artillery batteries was armed with the 15 cm schwere Feldhaubitze 18/1 (heavy field howitzer), mounted on the components of the Pz.Kpfwg. III and Pz.Kpfwg. IV as a self-propelled gun carriage.

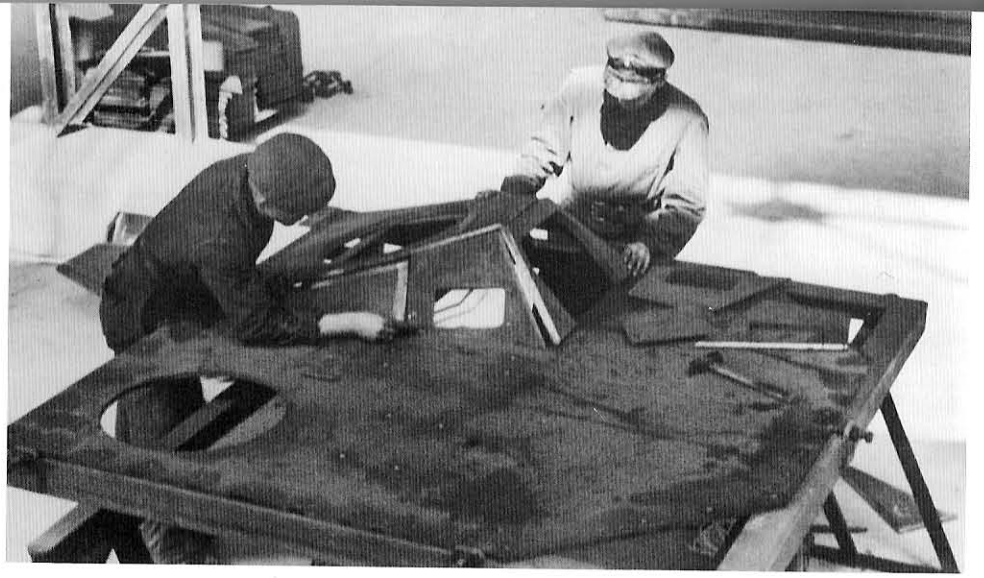
The 15 cm schwere Panzerhaubitze 18/1 auf Fgst. Pz.Kpfwg. III/IV (Sf.) (Sd.Kfz. 165) nicknamed "Hummel" (bumblebee) first appeared with the frontline units on the Eastern Front in May 1943.

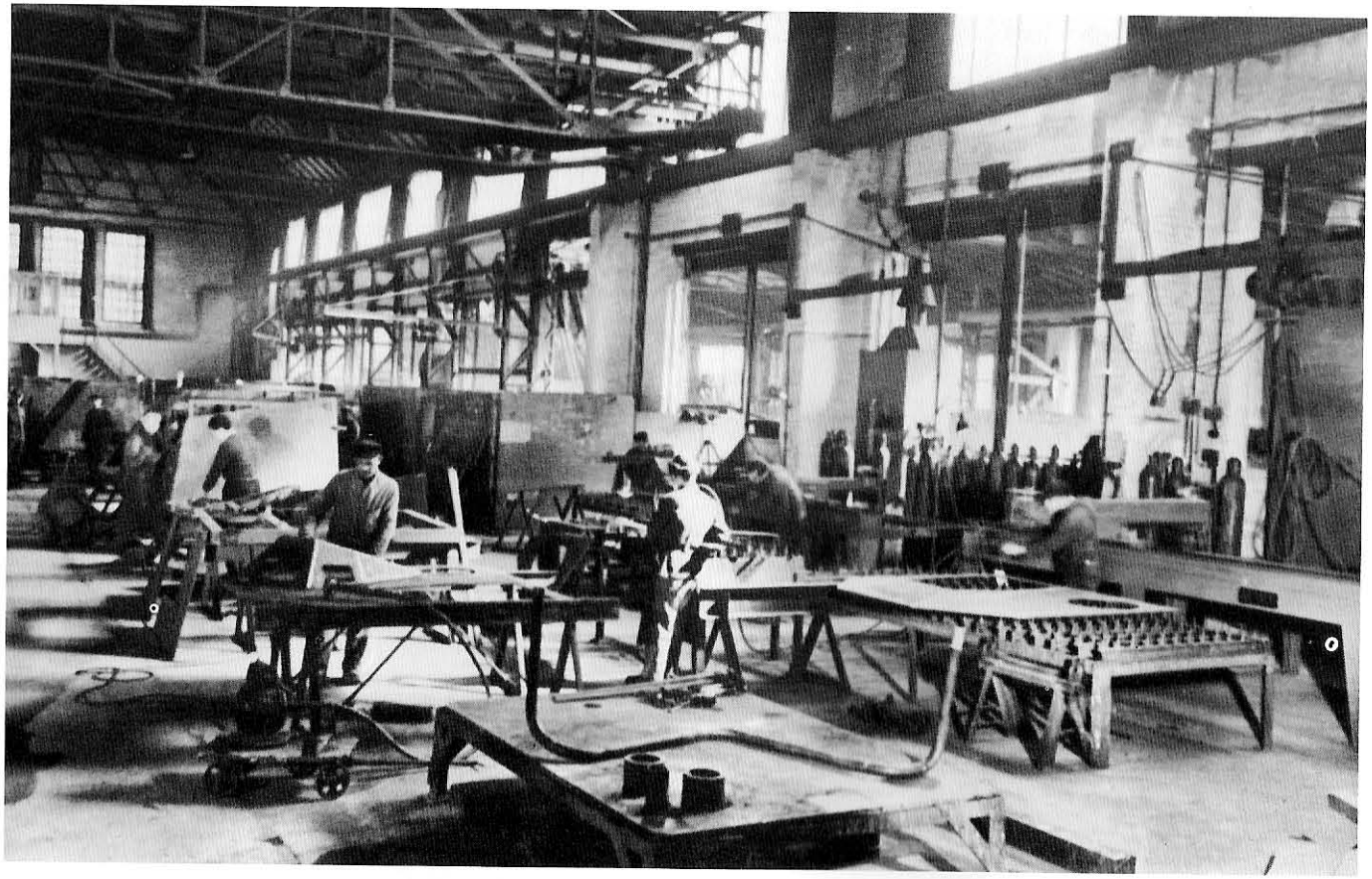
The vehicle was lightly armored and had a spacious fighting compartment; the engine was located in the center and the crew consisted of seven Artilleristen (artillery men). The uniform had the Panzer-cut. The cloth was field gray with red piping, the Waffenfarbe of the Artillery arm.

A total of 724 s.FH. 18(Sf.) "Hummel" plus 157 units Munitionsträger "Hummel" (munition carrier) left the factory of the Deutsche Eisenwerke, Duisburg, from 1943 until April 1945.

A group of new Hummel await transport. Production of the vehicle continued throughout the war, with 368 constructed in 1943, 289 in 1944, and 57 units till April 1945.



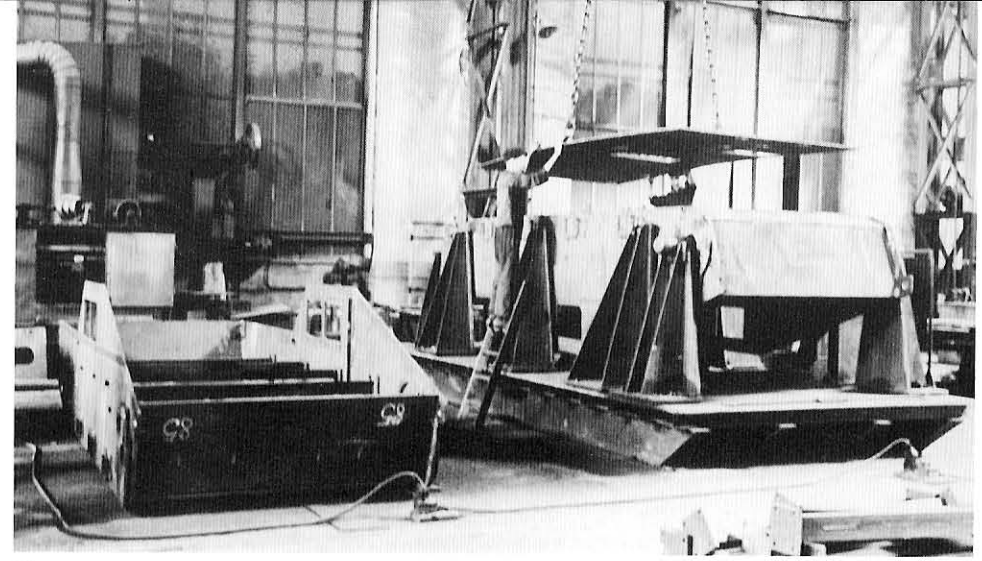



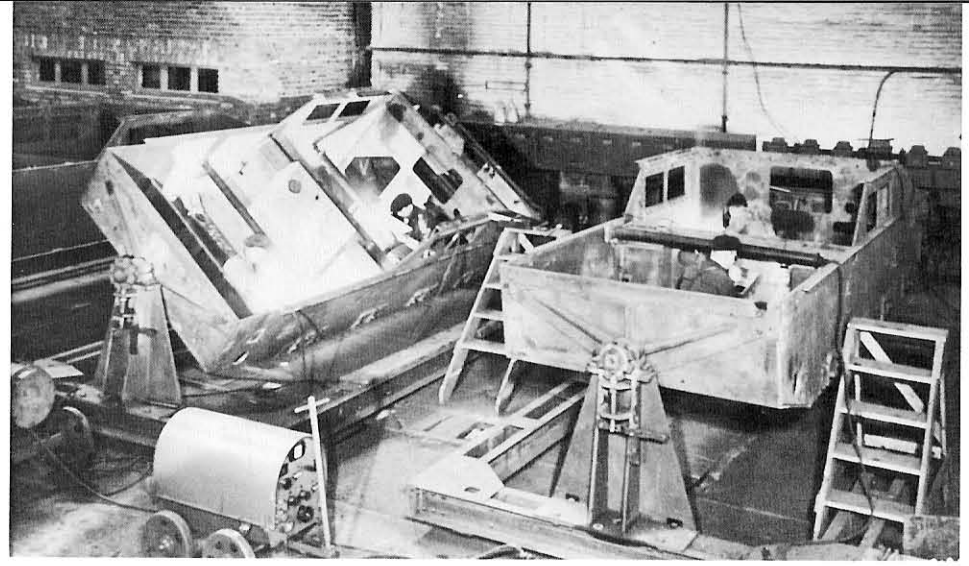


The Hummel was manufactured at the Deutsche Eisenwerke factory in Duisburg, Germany. Here, workers prepare the glacis plate of an early model vehicle. The raised blister is the driver's compartment with vision ports to the front and to either side. The radio operator compartment to the right featured a hatch only.

(Top left)
Rear hull assemblies on the production line. The armor plate was produced by Deutsche Röhrenwerke in Mühlheim. The plates were bolted or welded to the specially modified chassis.

General workshop area; note the acetylene tanks and the driver's blister compartment. Many non-German skilled laborers were pressed into service at Deutsche Eisenwerke. Wages were actually similar to that of national employees, but many benefits were omitted. A typical shift ran 10-12 hours a day.

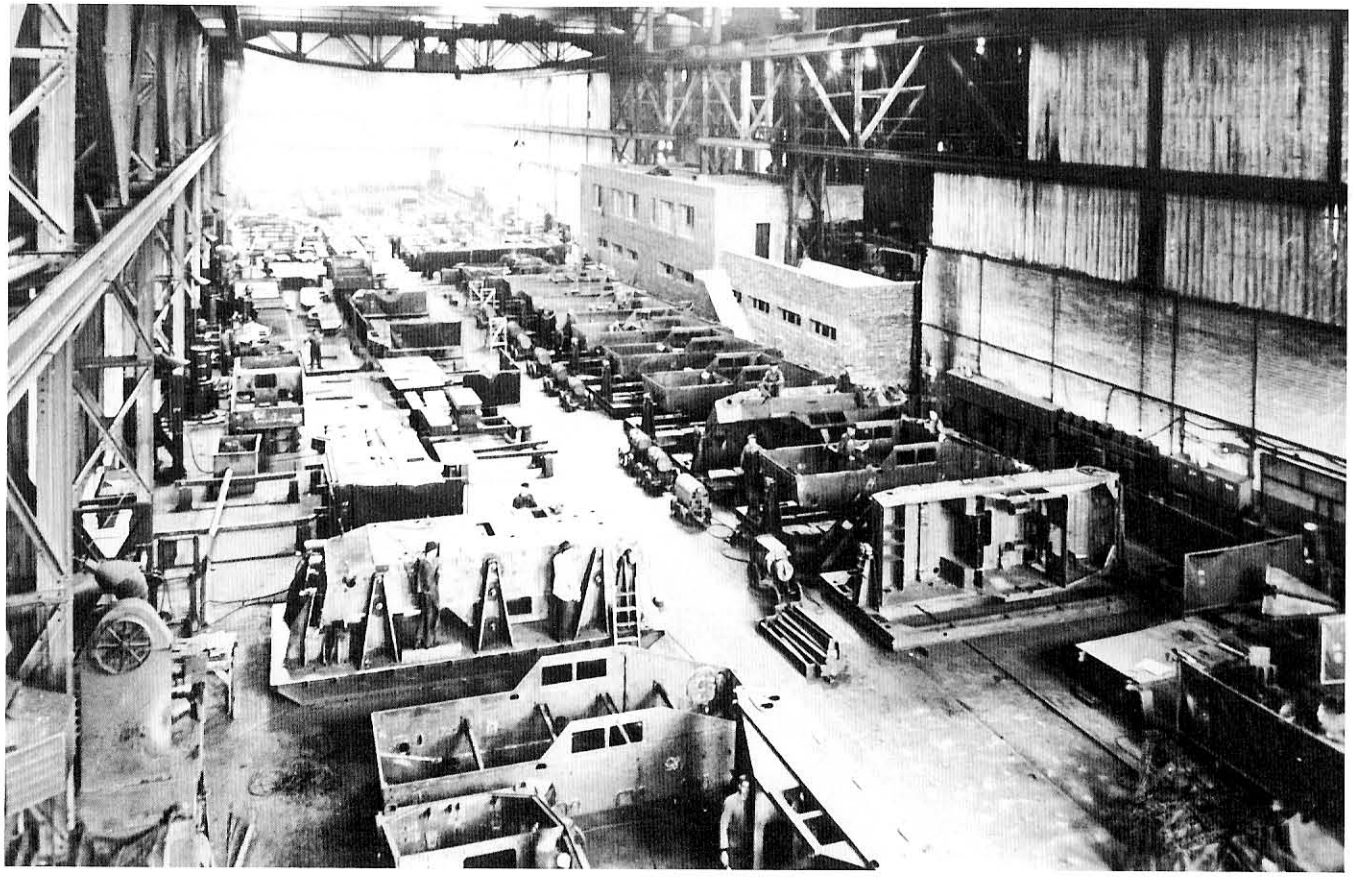




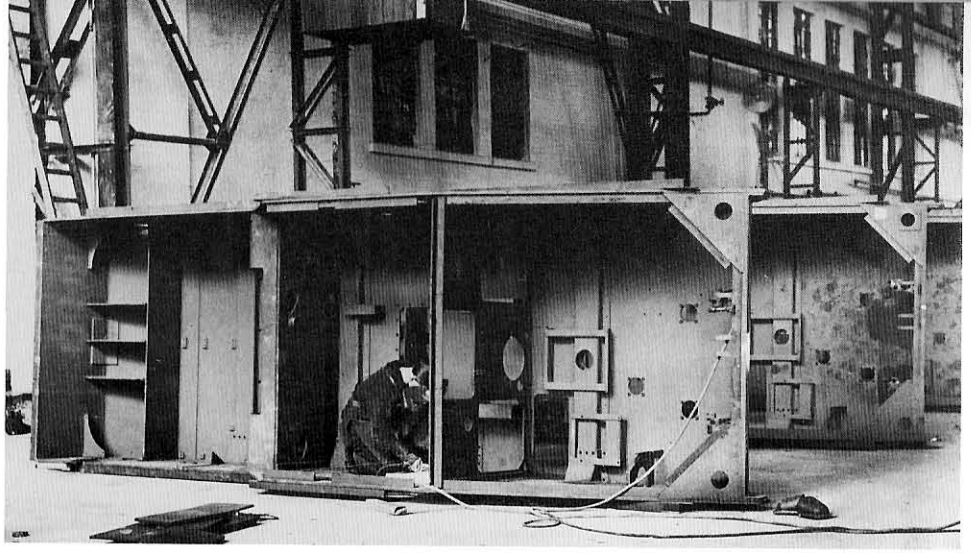
Hummels used a modified Pz.Kpfw. IV, Ausf. F hull. The chassis was lengthened to accommodate the additional weight and length of the 15cm schwere Feldhaubitze 18 L/29,6 howitzer piece. Note the pivot support that allowed the hull to be accessed from different angles during construction.

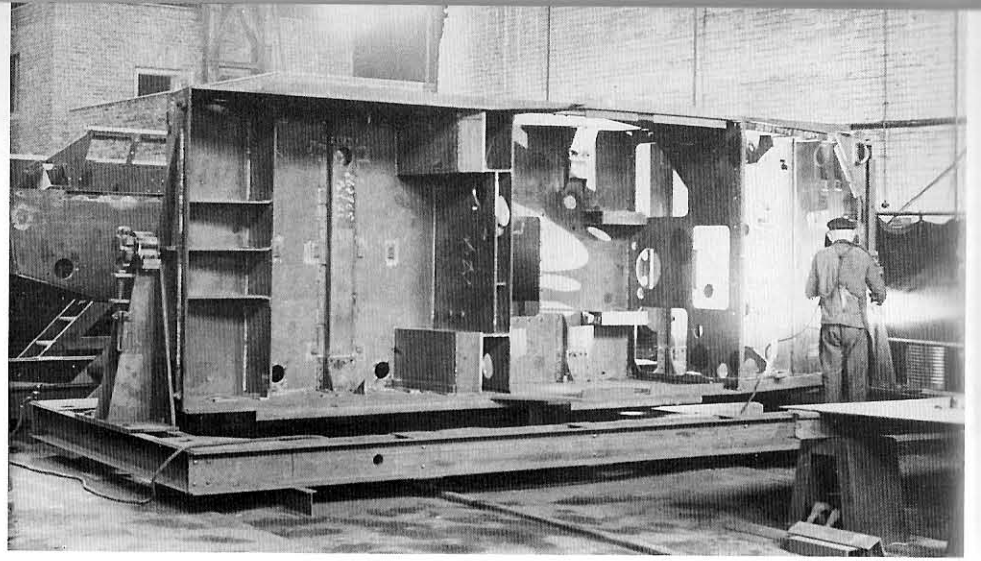
(Top right)

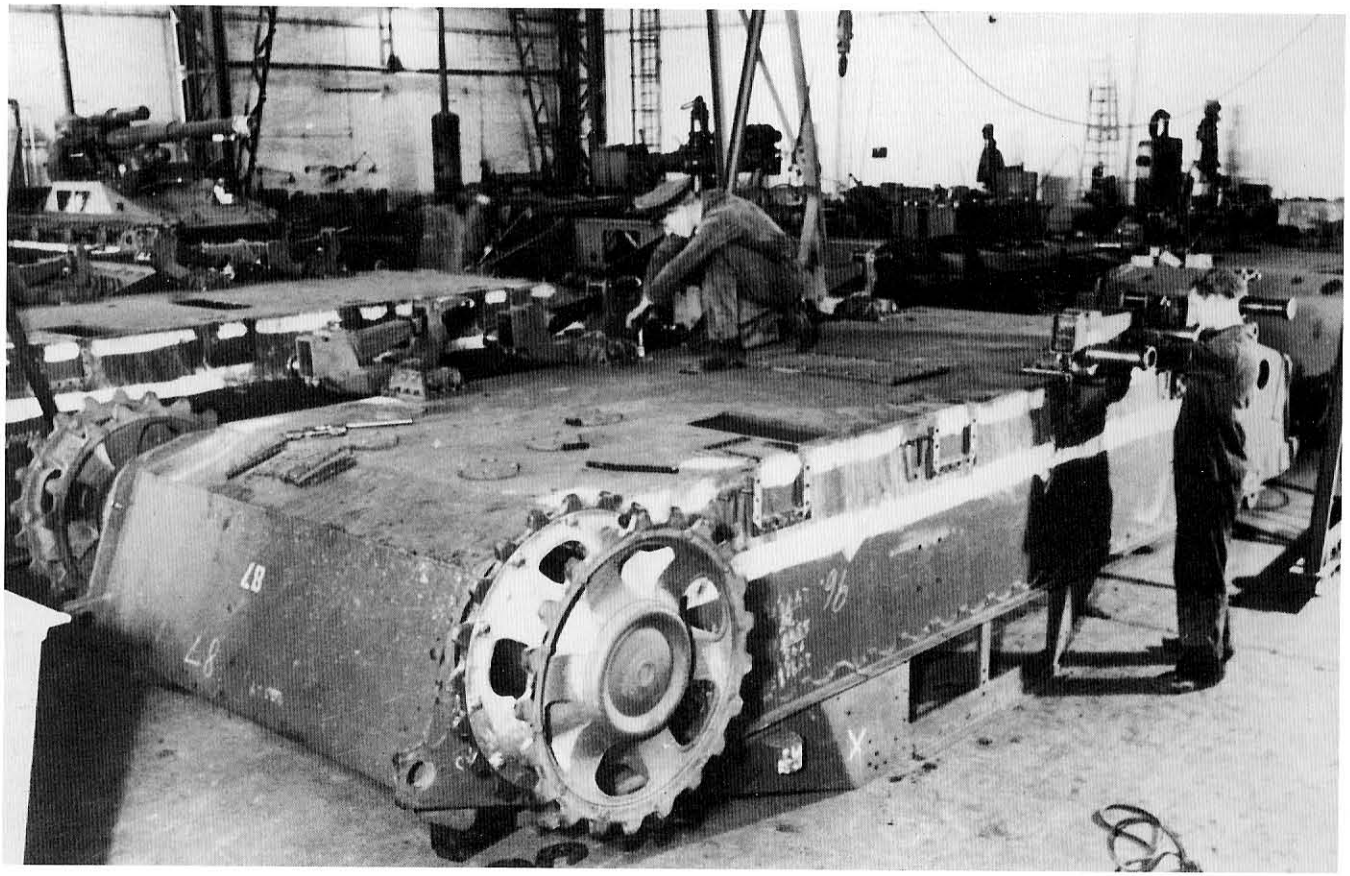
Assembly templates and frameworks assisted dimensioning and construction layout. The templates are the triangular double-T supports along both sides of the hull on the right, suspending it in the air. The same lower hull receives its bottom plate from the overhead track crane.



Lower hull assemblies in various states of completion. The double-height factory space provided plenty of natural light and fresh air, but was designed to accommodate the manufacture of larger equipment than the Hummel.



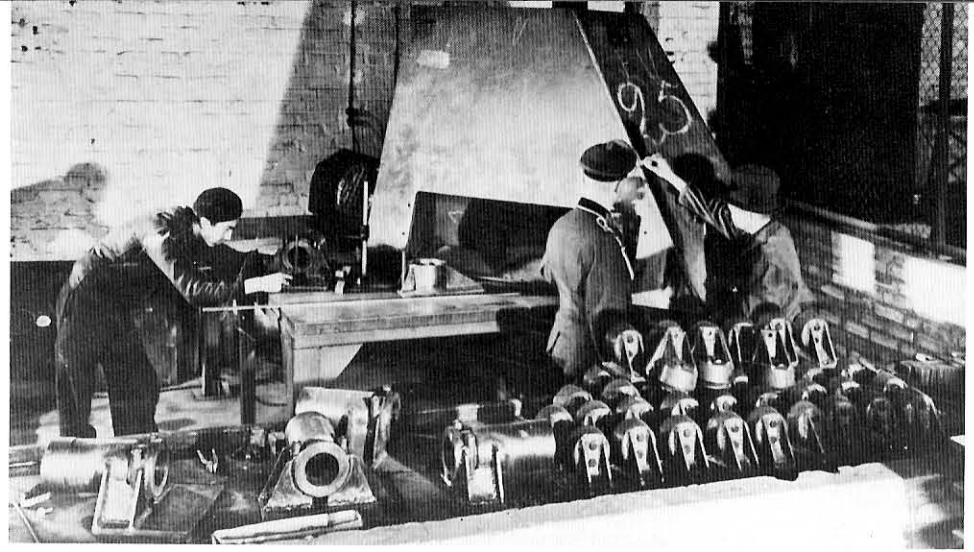


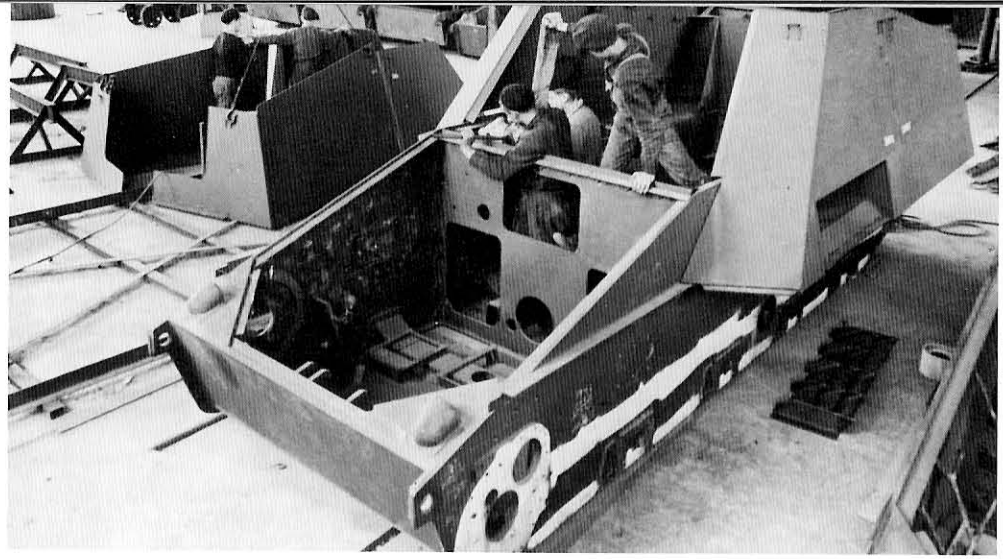


The pivot frame allowed the hull to be rotated a full 360 degrees. Note the transmission hole in the lower center of the forward firewall plate.

(Top left)
The angled braces visible in the corners added rigidity to the lower hull. The welder is working in the engine compartment area. The mid-mounting of the engine made room for the fighting compartment to the left, and for the driver's area at the right.

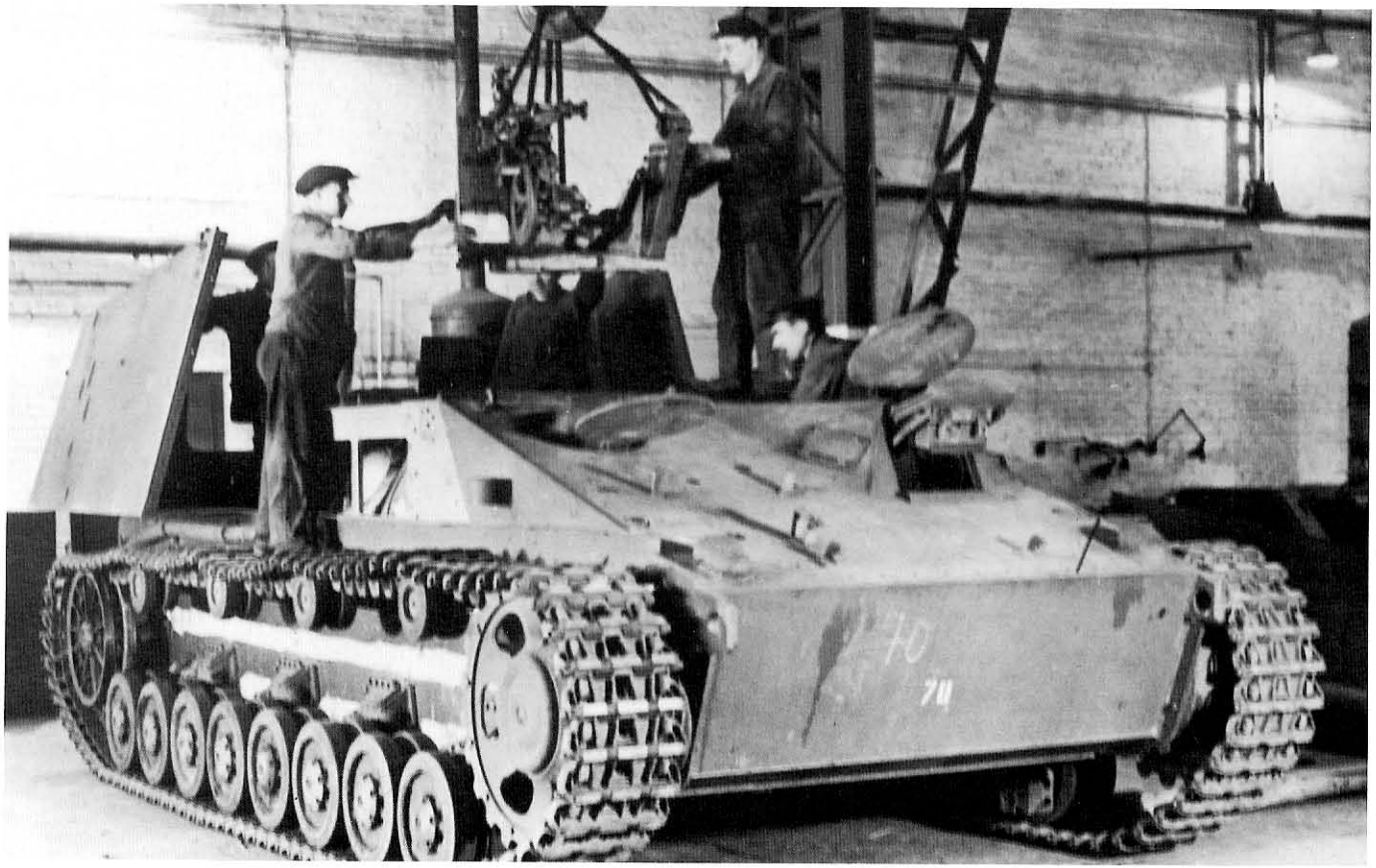
Most of the drive wheels came from the Panzer III, Ausf. J. This upside-down hull rests on plates that protected the engine compartment. The two rectangular cutouts in these plates allowed air to pass in and out through the louvers seen to either side of the completed superstructure.



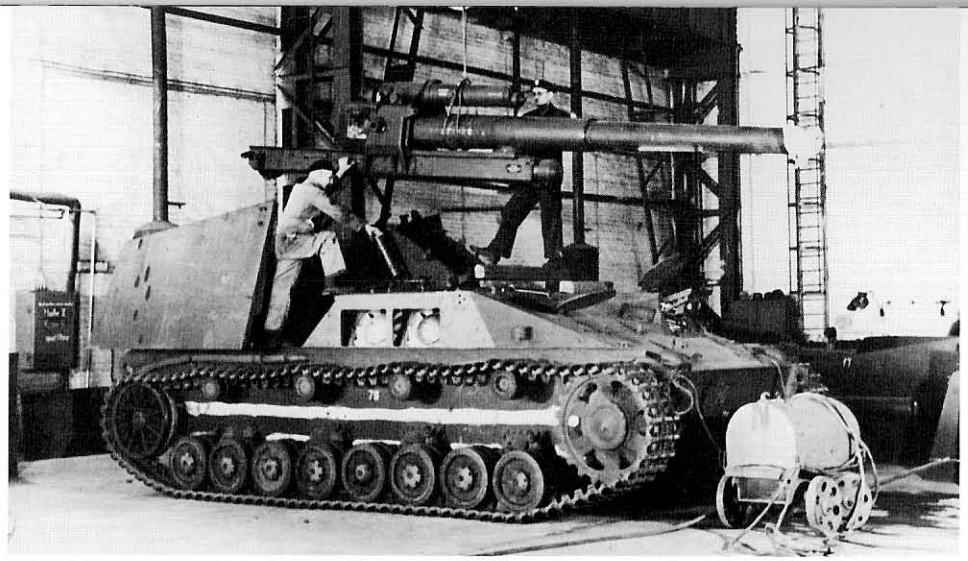


Dampers for the suspension arms are prepared for installation. Each pair of roadwheels received a damper to one side. The rear roadwheel assembly received a damper to either side, providing maximum guidance for the elliptic springs.

(Top right)
Note the bulges on the corner braces at the front of the hull. These were armored ducts that allowed air to cool the brakes. An engine louver assembly on the ground awaits installation.



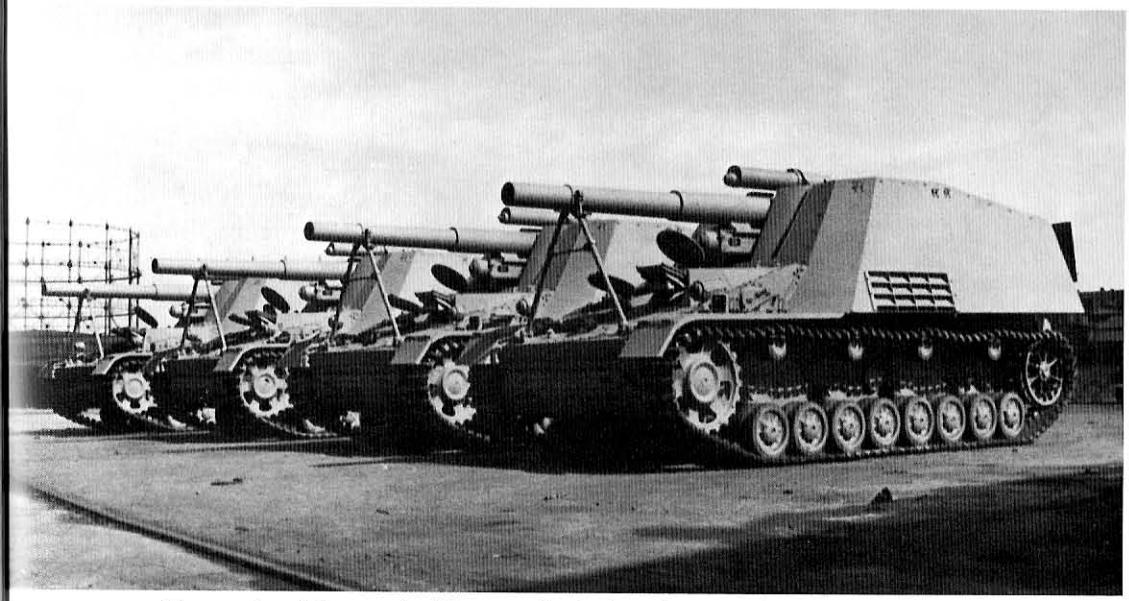
The howitzer cradle is lowered into position. The center of gravity of the gun was positioned very close to middle of the vehicle to distribute the weight evenly on the suspension.



This impressive salute of Hummel shows a group of vehicles that have just received their main weapons. An s.FH 18 in the foreground remains to be installed. The gun tube was of monobloc construction and fit into a reinforcing jacket. The breech ring is secured to the jacket and contains the horizontal sliding breech-block.

(Top left)
The weapon itself is now lowered into its cradle. The 15cm s.FH 18 howitzer was also produced as a towed version and was modified for the Hummel with the obvious deletion of the limber, spades, and split trails.

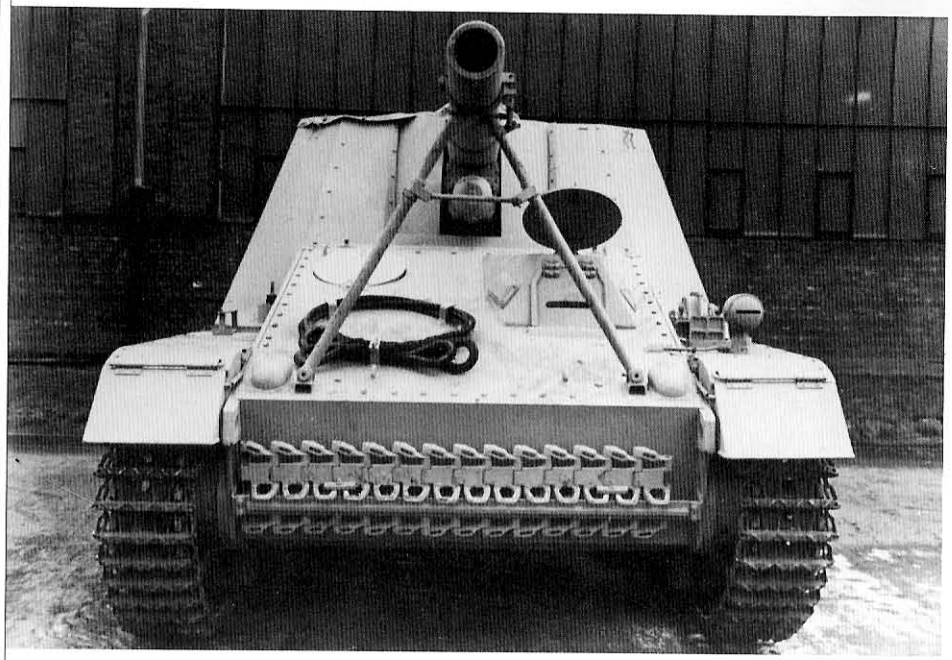
It is interesting to note that while these vehicles have received their guns, they bear no tracks, or glacis plates as yet. While production was standardized, phases of construction could be alternated.

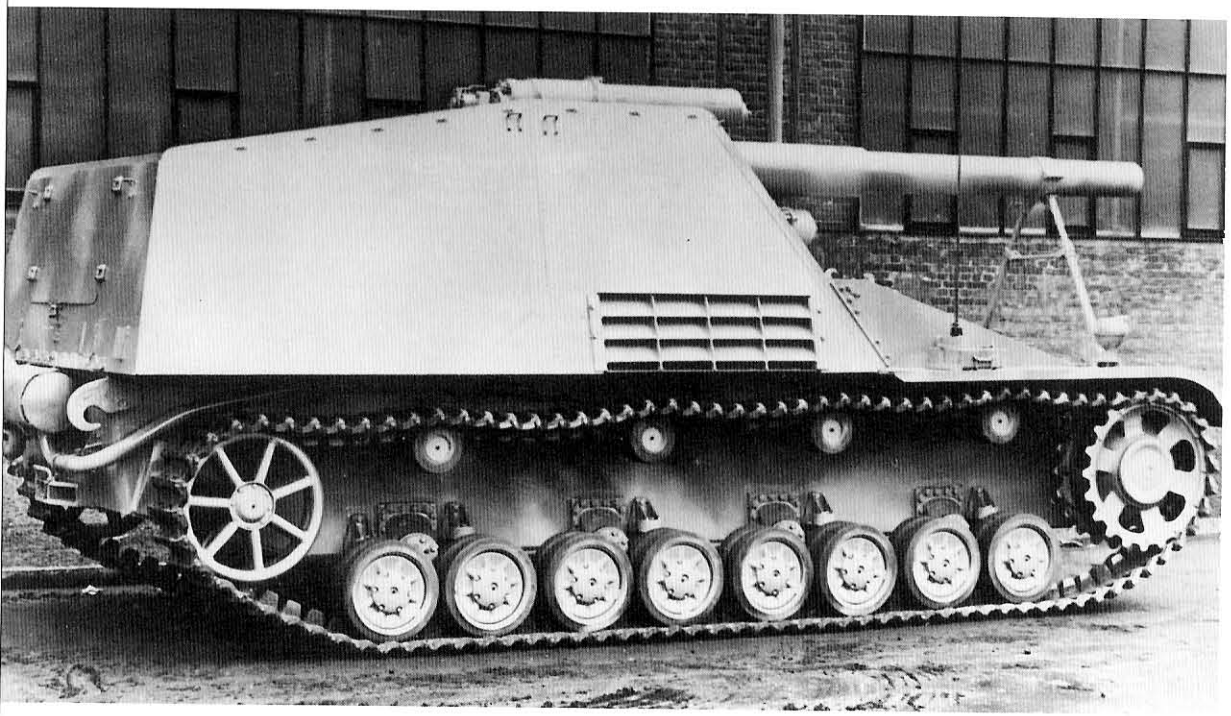


Panzerhaubitzen (self-propelled howitzer) lined up outside the factory in Duisburg, August 1943.

The 15 cm schwere Feldhaubitze 18L/29.6 was developed and built between 1926 and 1930 by Krupp and Rheinmetall. The howitzer had a maximum range of 13,325 m and a rate of fire of 4 rds. per minute.

(Above left)
Schwere Panzerhaubitzen "Hummel" are moving into position, while a Panzerbefehlswagen II equipped with a 30W (Fu8), a (Fu4) and a Funksprechgerät f (Fuf) is coordinating the firecontrol between the individual Geschütze (guns) and the whole divisional artillery. For this purpose each Hummel has a Lautsprecher (loudspeaker) installed, allowing every crewmember to listen in without having to wear the cumbersome Kopfhörer (headset).

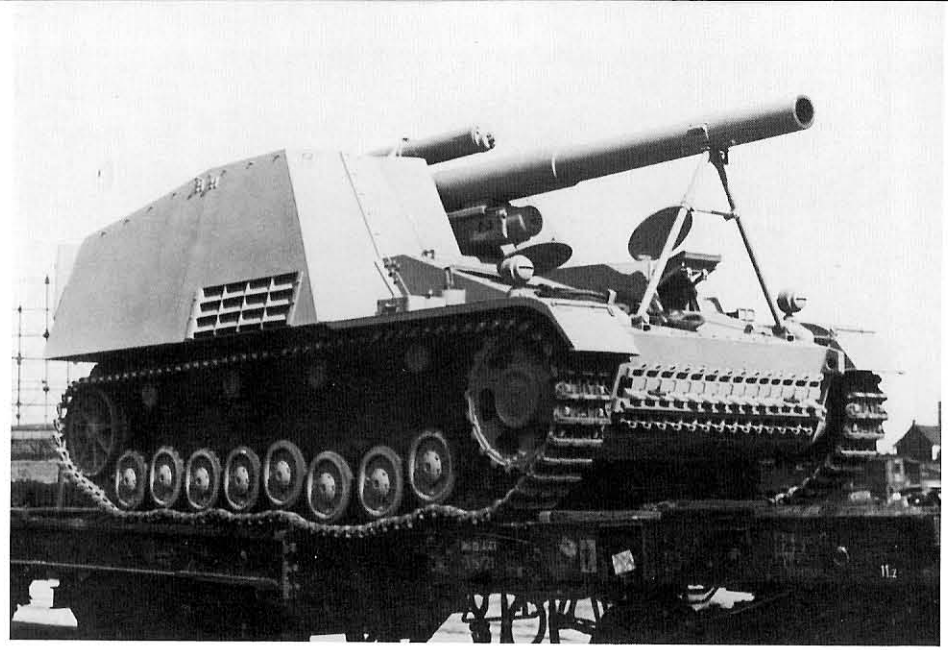


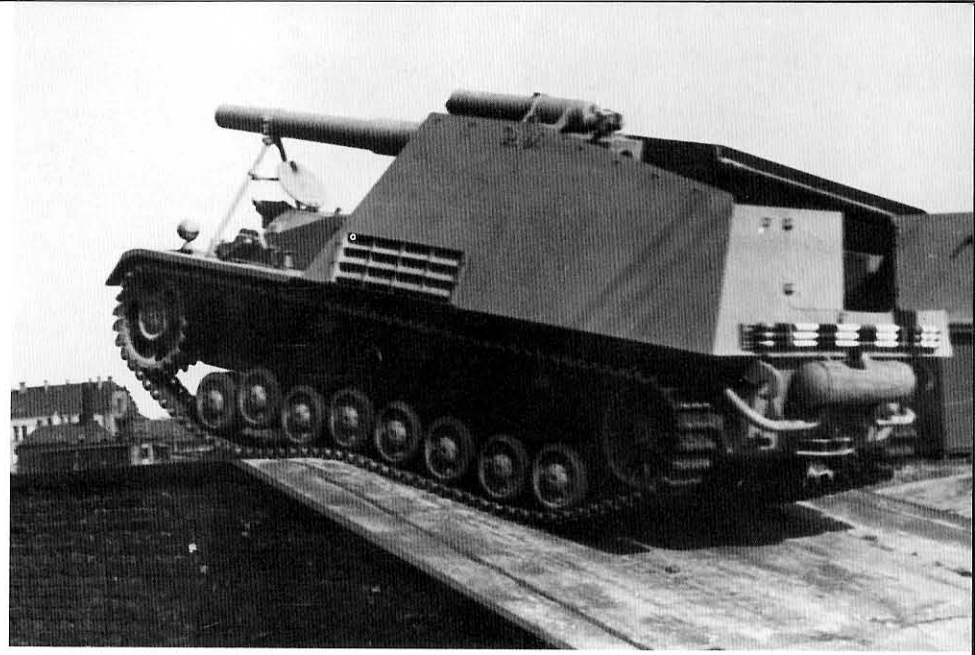


Many Hummels were camouflaged at the factory if time permitted. A cloudy pattern of dark green or red brown has been applied to this recently completed vehicle. Divisional and tactical markings were applied during transit or in the field.

(Top left)
This frontal view of an early model Hummel displays the characteristic glacis plate, hollow guide horn track links and jack. A Bosch headlight is missing from the right side.

The early model Hummel carried pipe to the muffler from either side of the vehicle. The section of pipe above the idler wheel was very exposed and frequently damaged. Note the aerial for the radio just to the right of the radio operator's compartment.



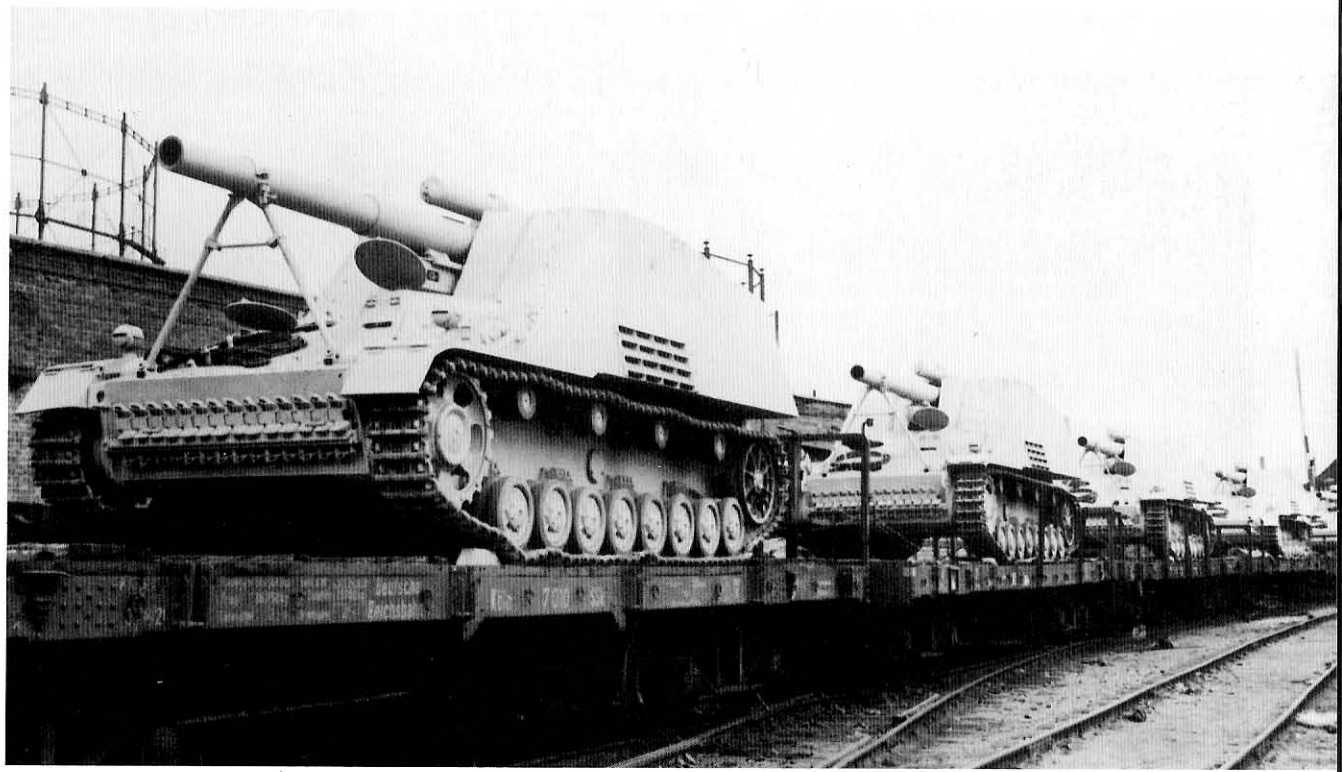


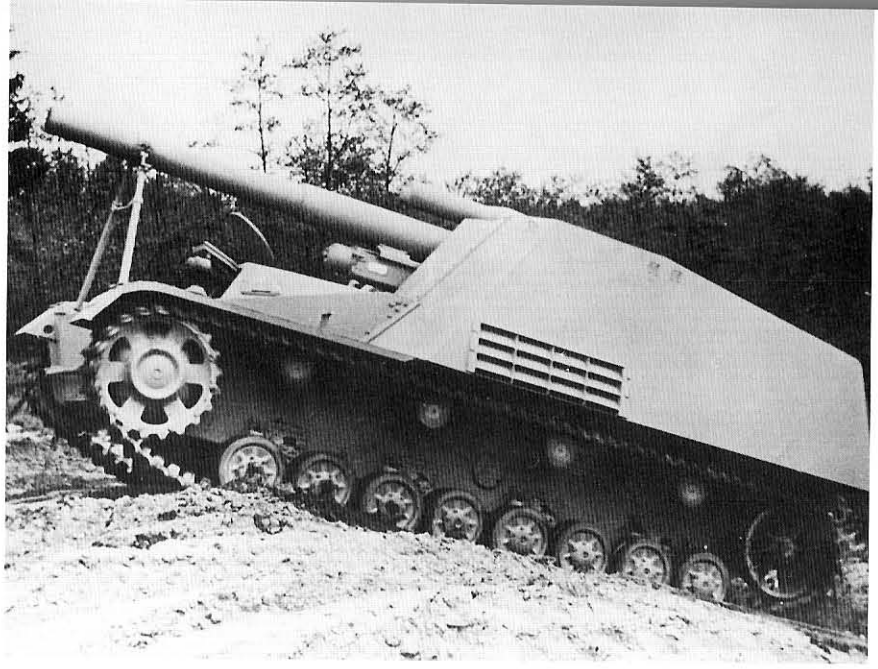
A railroad line connected directly to the production plant and factory personnel were responsible for loading the vehicles. The Hummels were driven onto this specially provided ramp and then to the flatcar. The driver's front visor is open for an enhanced view.

(Top right)

Unlike larger vehicles such as the Tiger I, the Hummel did not need special railroad tracks for transport. The width of the tracks was narrow enough to pass through the many tunnels in the journey to the front.

The German national railroad, or Deutsche Reichsbahn, was empressed by the military for its cargo needs. In the buildup for the invasion of Russia, nearly 220 locomotives headed to the east everyday. Several flatcars were available for the transport of heavy vehicles, including the six-axle Ssmys and SA 705 types.





Though a successful and reliable vehicle, the Hummel was only a temporary solution to the full specifications outlined by the Heereswaffenamt for a self-propelled artillery piece. A more specialized vehicle would have also had the ability to traverse the howitzer 360 degrees and dismount it into an operating fire position.

(Top left)
The Hummel was developed to eliminate pockets of resistance bypassed by the forward-striking Panzer. Because of their mobility, cross-country performance, and quick-fire setup capability, Hummels could be counted on to keep pace with the quickest of advances.

The crew of this vehicle have mounted spare road-wheels on the frontal oblique armor plates. These supplemented the meager 10mm thickness of the superstructure. Hummels were designed to carry just enough protection against MG fire and shrapnel, thereby preventing their use as anti-tank vehicles and emphasizing the distinct roles of Panzer and self-propelled artillery.

A proud Hummel crew poses with their vehicle. Mobilized artillery was very popular with the ground troops that saw less of their fire support coming from the Luftwaffe as the war continued. Note the spare track that was typically mounted at the front of the hull, and the rubber rimmed return rollers. Each crewmember had a steel helmet in addition to the field caps worn here.

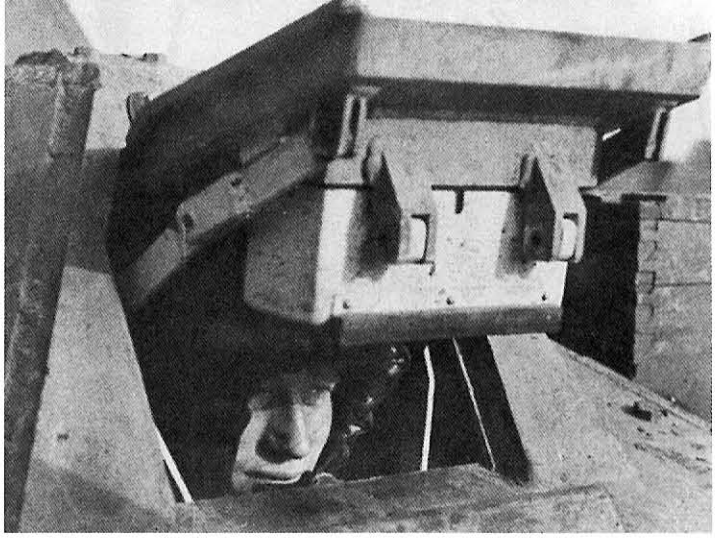
Italy, 1944. As the Luftwaffe gradually lost air superiority over each front, vehicles were hidden in orchards and forests when they were not travelling. Called in support of a counterattack, these Hummel emerge from their daytime hideout. Though the vehicles are well camouflaged, the area around the engine louvers has been left clear, as the engine drew cool air from this side.

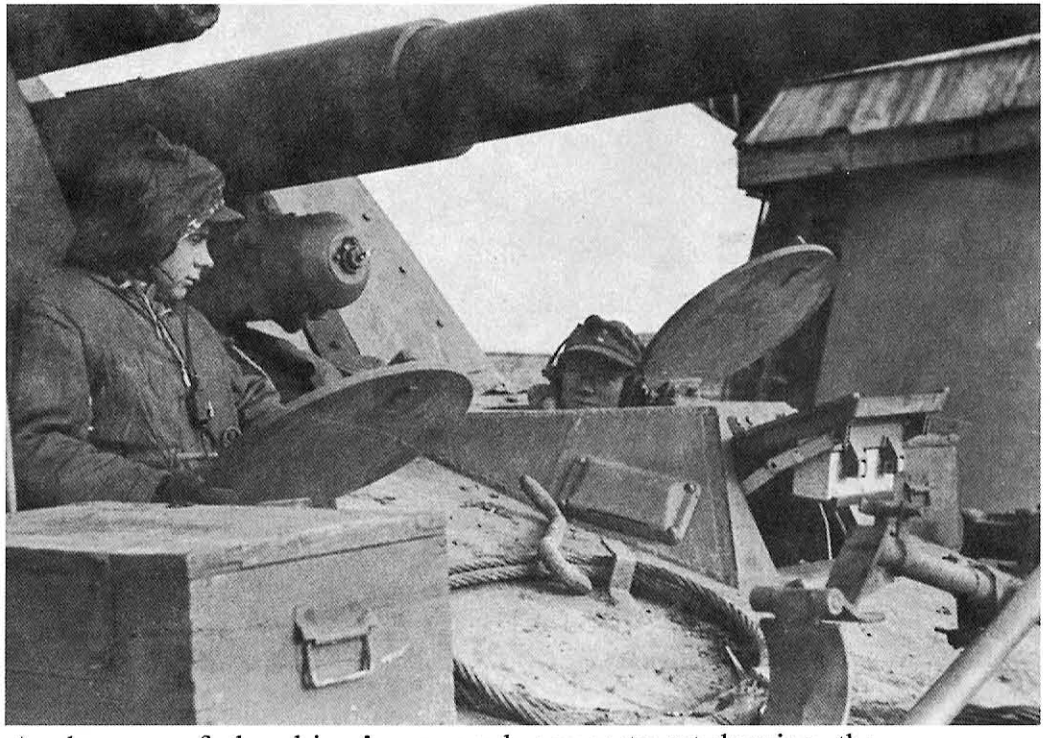
(Top left)
Russia, 1943. A battery of Hummels advances in support of its division. Note the spare road wheel in a customized attachment to the lower left front armor plate. Tools have been stacked on the front superstructure. Note the camouflage pattern and three-digit tactical number (company, platoon, and vehicle number) on the vehicle to the far left.

Eastern Front, 1943. These Hummel of the 6. Panzer Division share the same, low, gun elevation, indicating a relatively close target. It must also be a hard target, as the guns are grouped very tightly. The strong camouflage patterns and application of vegetation softened the angled silhouettes. The Hakenkreuz (swastika) bearing flag draped over the gun barrel of the vehicle on the left is for air recognition.

Eastern Front, 1944. This late model vehicle carries an effective combination of hand-applied paint and vegetation. A custom box carries rounds for the s.FH. 18, given the visible load exerted on the fender. Shell weight ranged from 25 Kg. for the AP and 45 Kg. for the HE ammunition.

A parka-clad radioman stows his personal gear on his side of the driving compartment of this Hummel. The folded travel lock for the gun barrel is seen in the foreground of the photo.





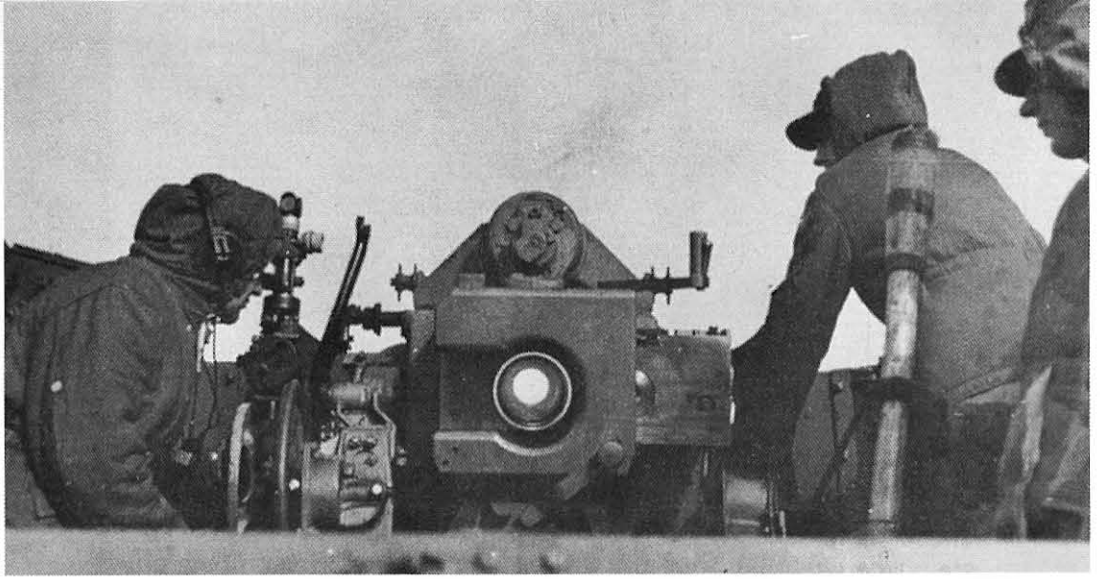
A close-up of the driver's armored compartment,showing the 30mm armor plate with its wide-angle viewer and the bullet splash railing welded to the engine cover plating at the bottom of the viewplate opening.

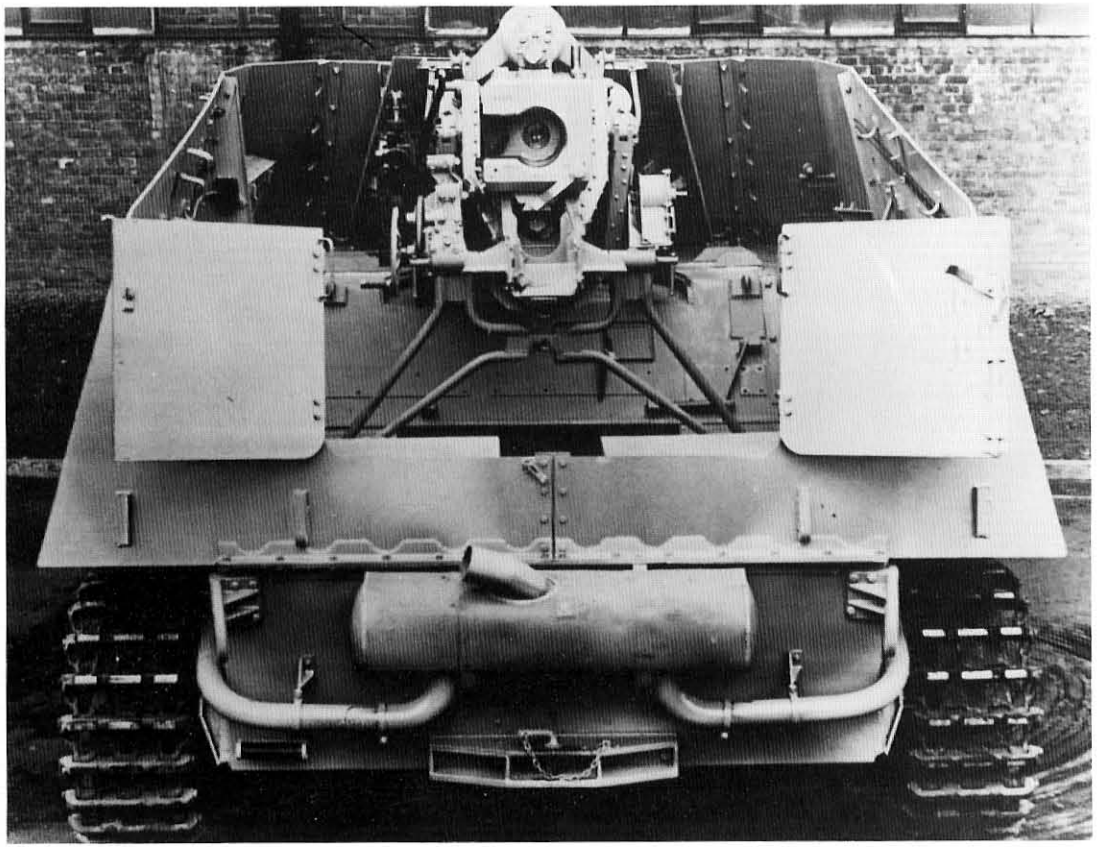

Each of the vehicles in this unit has also received a box attached to either the right or left fender. Storage capacity within the fighting compartment was severely limited, with space priority given to ammunition and howitzer implements. Boxes such as these may have contained the personal items of the seven crewmembers.

(Top right)
These new vehicles are being received by the same unit. Note the shipment of new Sturmgeschütz III G assault guns in the background that have also arrived. The Bosch headlight typical of early model vehicles has been deleted from the right side in this production run.

The frame in front of the driver's compartment was approximately 100 cm wide and 50 cm, high, with three vertical braces in between the outer frame. The driver would align the framed view with a vertical element, such as the ranging rods, to position the vehicle.

The loader stands before the opened breech of the 15 cm howitzer with a 96 pound high explosive projectile in his hands. The handle that opens and closes the horizontally sliding breech is visible on the right hand side of the breechblock.





This fine view shows the open horizontal breech of the Hummel's 150 mm gun and the entire rifled length of the inside of the barrel of the tube.

This gunner is using the Rblf 36 sight. The lens aperture at the top of the sight points to the rear. The gunner uses this aperture of the sight to line up on the aiming stakes that have been pounded into the ground to the rear of the vehicle. In order to determine the correct azimuth, he lines up the stake and takes an azimuth reading. Subtracting 180 degrees tells him where the barrel of the gun is pointing.

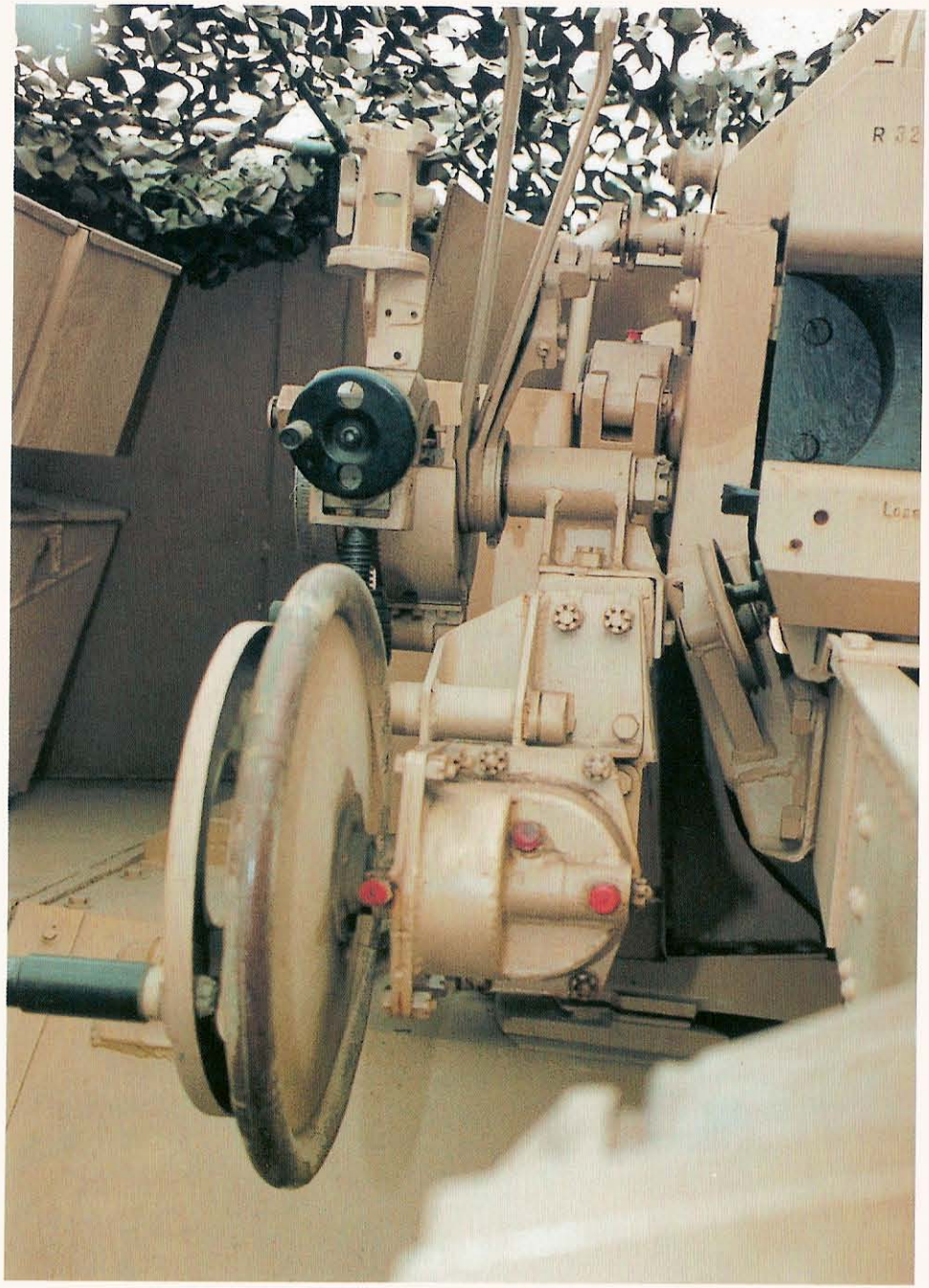
Russia, Spring 1944. These Hummel of the 1. Panzer Division carry custom-made rectangular frames welded to the right of the lower hull, which helped the driver move into firing position. Planners specified an all-round fire capability, but accepted the forward-fixed arrangement. Extemporized tools such as the driver's sighting frames went some distance toward enhancing the rapid deployment of the howitzer.

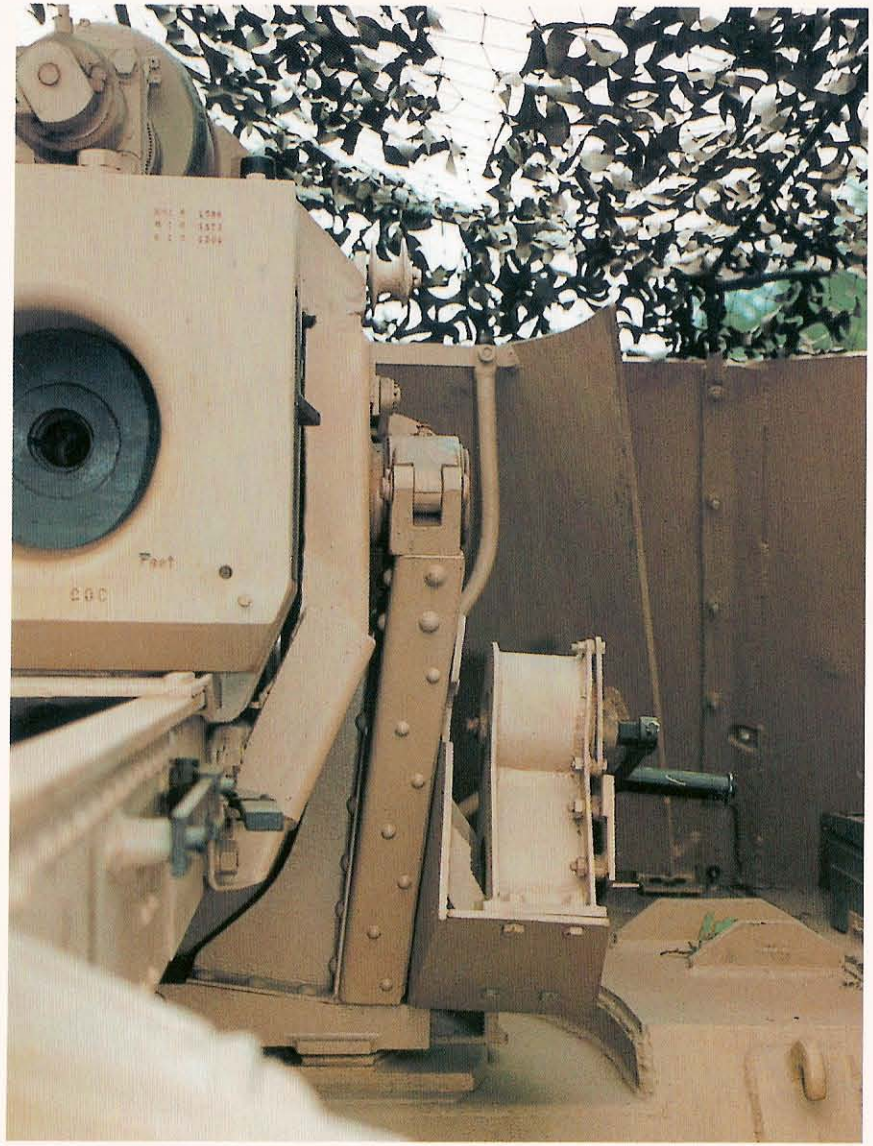
Russia, winter 1944-45. A coat of whitewash blends this vehicle into the landscape. The Balkenkreuz was preserved. As the vehicle only carried 18 rounds, Munitionsträger Hummel would deposit ammunition beside the vehicle during sustained fire engagements.

The restored left interior of the Hummel at Panzermuseum Munster, looking forward. The two boxes in the far upper left are for storage, the larger one beneath contained most of the tools. The small box with electrical cable leading to the left is the radio socket set. The brace running from gun carriage toward the foreground is part of a lock that kept the howitzer stable during travel.

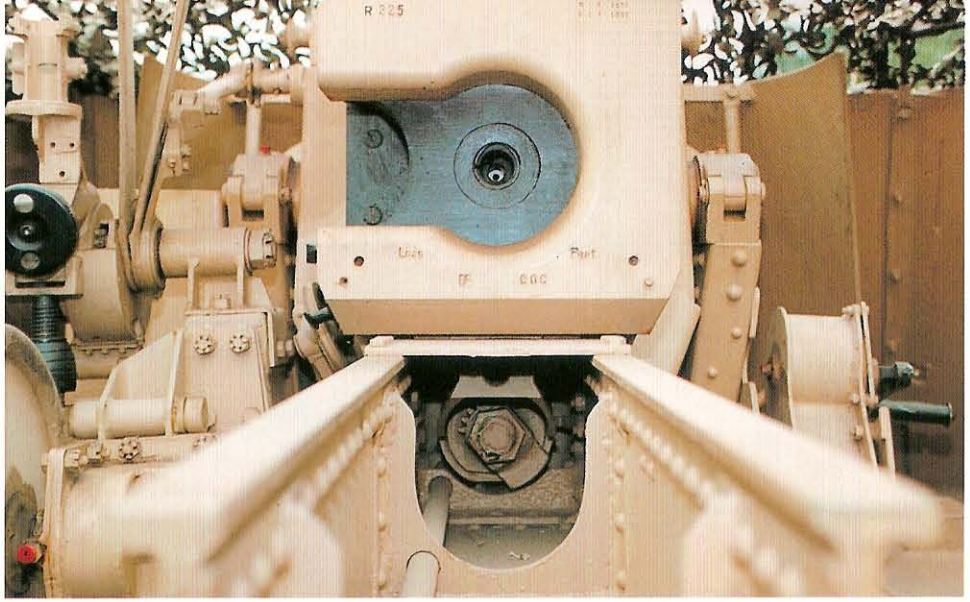
A delicate instrument, the Rblf 36 sight could be removed, serviced and safely stored in two main components when not in action.

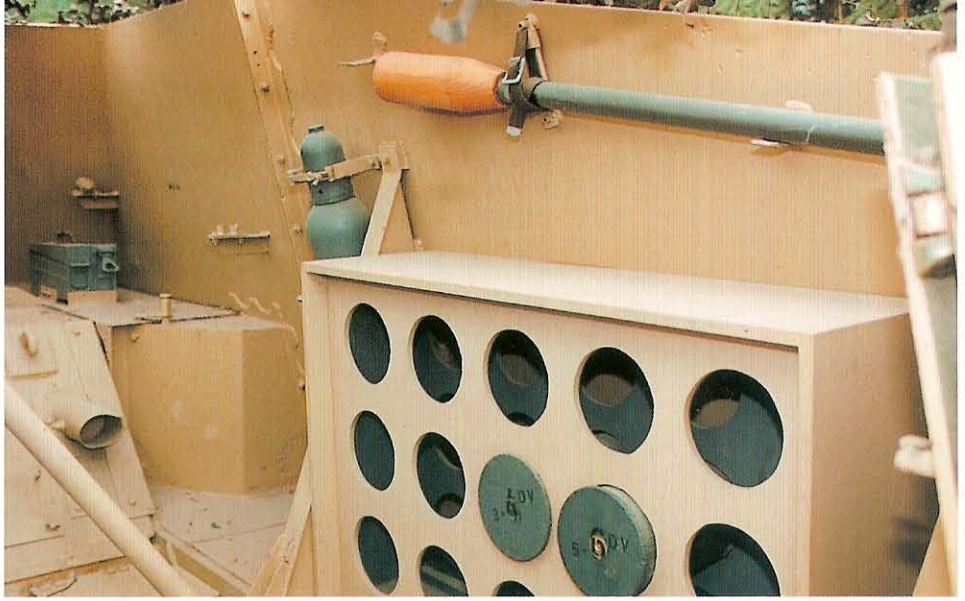
Belgium, late 1943. During rest and refit for his unit, a young gunner practices with the Rblf 36





The restored Hummel at Panzermuseum Munster is missing the Rblf 36. The arms jutting upward to the right of the sight housing are the telescopic mount reference pointers. The smaller wheel above the traverse wheel in the foreground adjusted the height of the sights. These elements comprised the Zieleinrichtung 34 aiming sight.

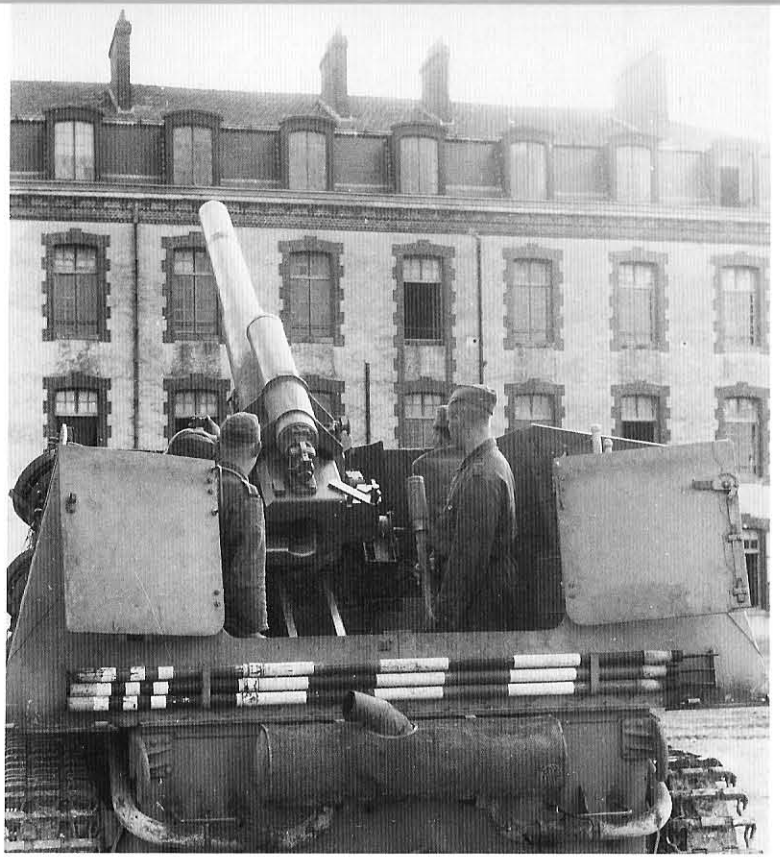




This right view of the interior looking forward reveals much of the on-board equipment and/or locations.The charge box only contains 15 cases.

(Top left)
The breechblock is in the closed position. The cradle trough housed a recoil brake cylinder that spanned some distance under the gun barrel. The hexagonal nut attached this cylinder to the cradle. The rod extending from the bottom left of the cylinder to the foreground is the pinion shaft.

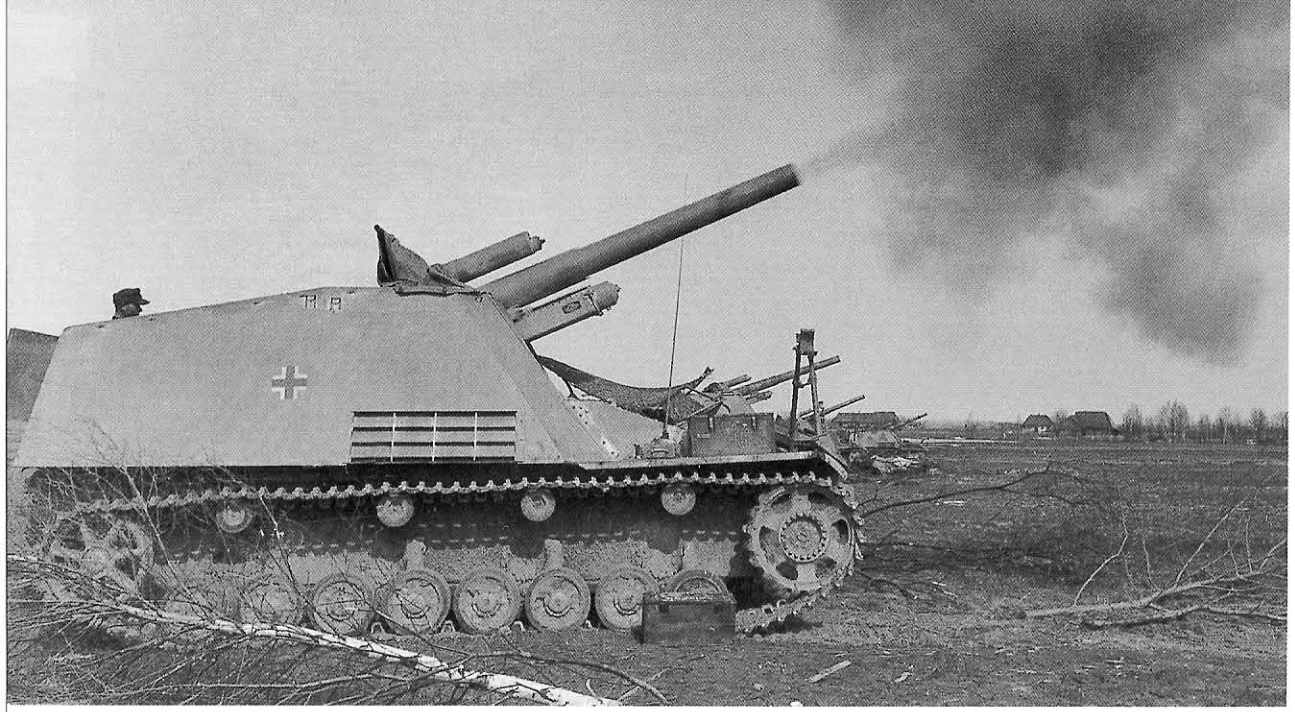
The same crew prepares to fire another round. A rate of fire of between 4-6 rounds per minute could be kept depending on the ammunition type. Helmets were worn when there was a possibility of return fire or combat along an ever-fluctuating front line. There was also the rare chance of the round detonating in the barrel.

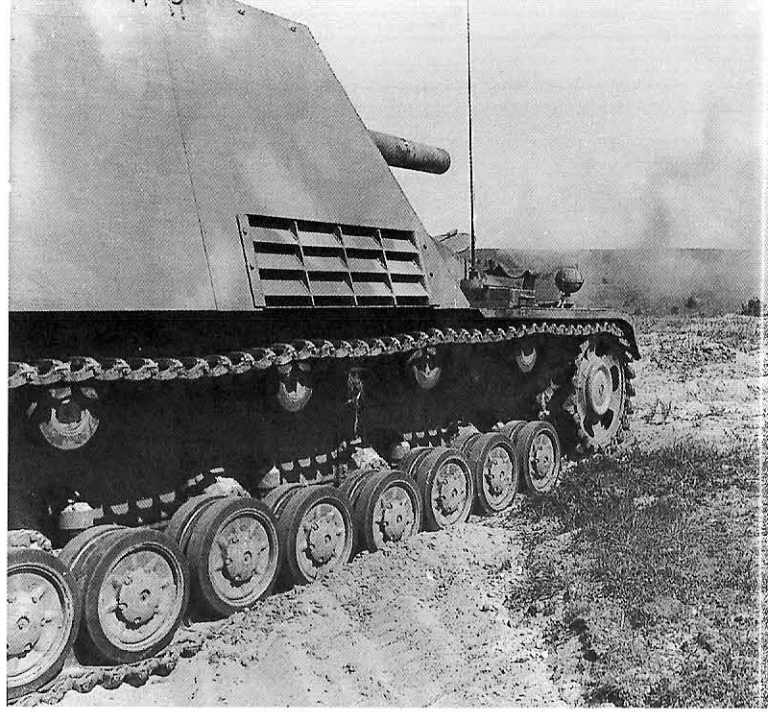


This crew practices indirect fire methods, using the multistory building as a training guide. The alternatively banded red and white ranging rods are kept in place by brackets. Note the early style muffler and bent exhaust tubes, which have begun to oxidize. The towing bracket is located on the lower edge of the rear hull.

(Top left)
Italy, 1944. As a shell is loaded, one Kanonier brings the charge forward while another is ready to position the round within the breech using the rod. The gunner stands next to the correction factor board with a hand on the traversing wheel. The crew commander in the extreme foreground wears a headset to receive instructions from the forward artillery observer.

The projectile has been seated, the charge fitted, sighting corrections made and the gun is ready to fire. The gunner closest to the breech on the right side is holding the firing lanyard, ready to pull it at the gun captain's command.

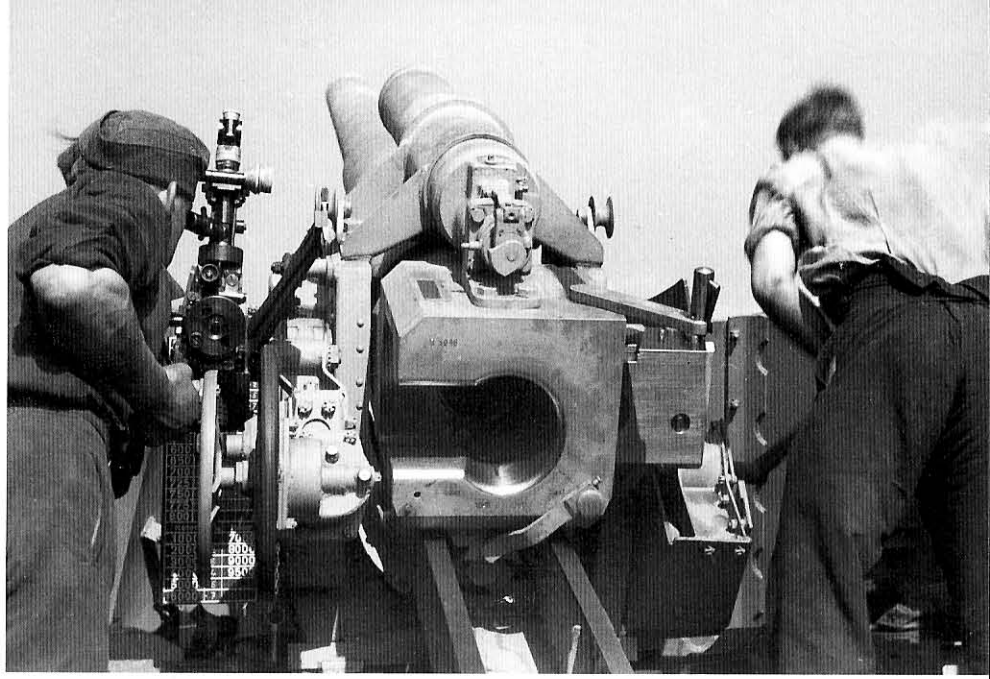




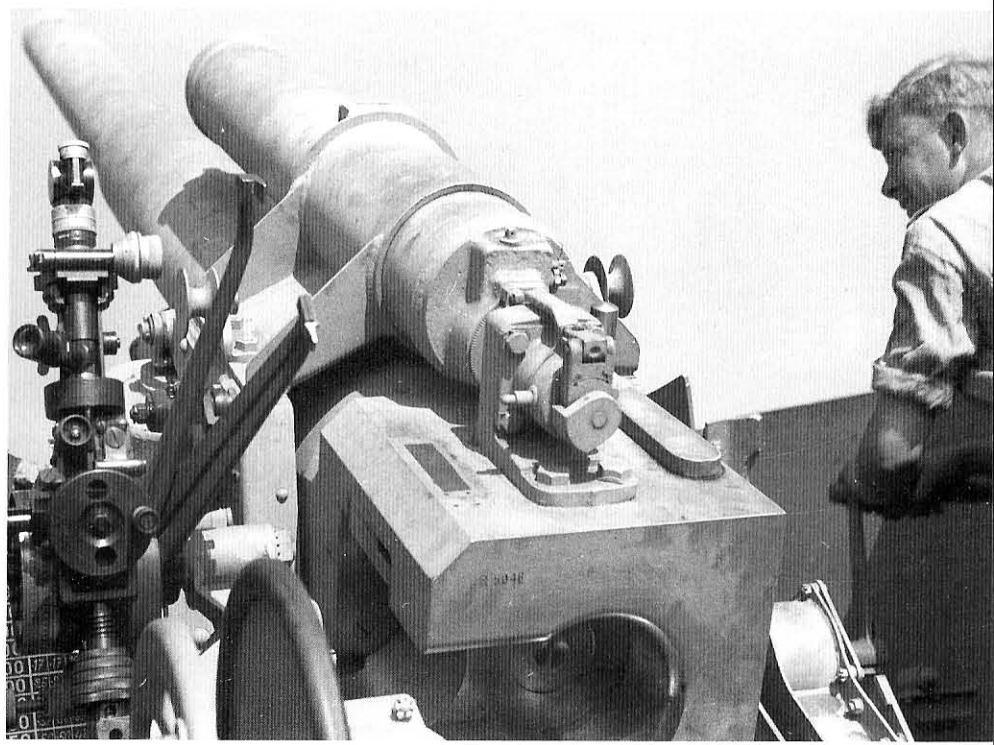
Because Hummel were employed in indirect fire, targets were pre-selected with coordinates plotted in, and could be fired on at any time. This battery commences simultaneous fire, which reduced the pinpointing of muzzle flash at night. The additional crates of ammunition stacked behind the vehicles indicate a sustained attack.

The s.FH 18 howitzer at the moment of fire, in full recoil. The well-soiled barrel indicates the frequent employment of this weapon. The gun had an elevation range of -10 to +45. Note the "cow-spot" camouflage on the furthest vehicle.

The massive breech of the s.FH 18 howitzer. It featured a horizontal-sliding closing breechblock, projecting to the right. The gunner on the left is making fine adjustments using the traversing wheel.

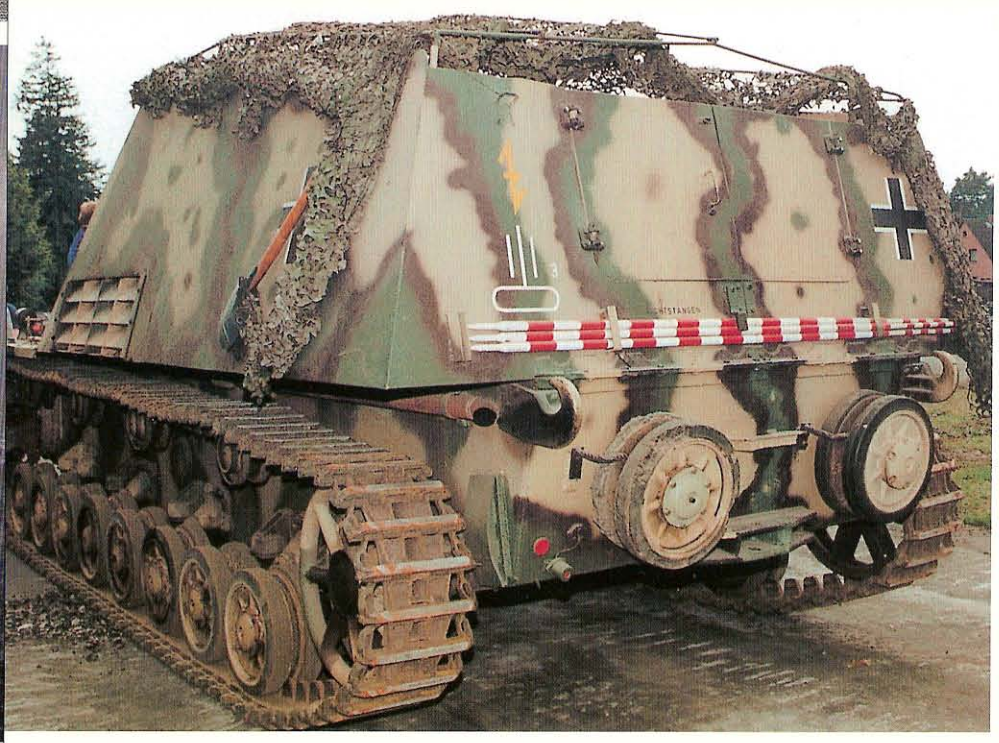


To the left of the breech was the gunner's station, with the telescopic Rundblickfernrohr Rblf 36 sight and the correction factor board. The pneumatic recuperator cylinder above the barrel remained stationary during firing, while the portion seen bolted to the breech pulled a piston rod and eased the recoil.



While "Anton" has the early version of the upper front hull with a Fahrererker (blister for driver), the lower hull features late model changes, such as the deletion of the muffler. Wartime repairs often resulted in much trading and swapping of parts, and overlapping production modifications meant that the factory incorporated each design change gradually.

The Balkenkreuz and the tactical sign should switch locations on the rear hull to represent their most common configuration. Notice the step-up plate in the middle of the lower hull between the two spare road wheels. This eased access to the fighting compartment.

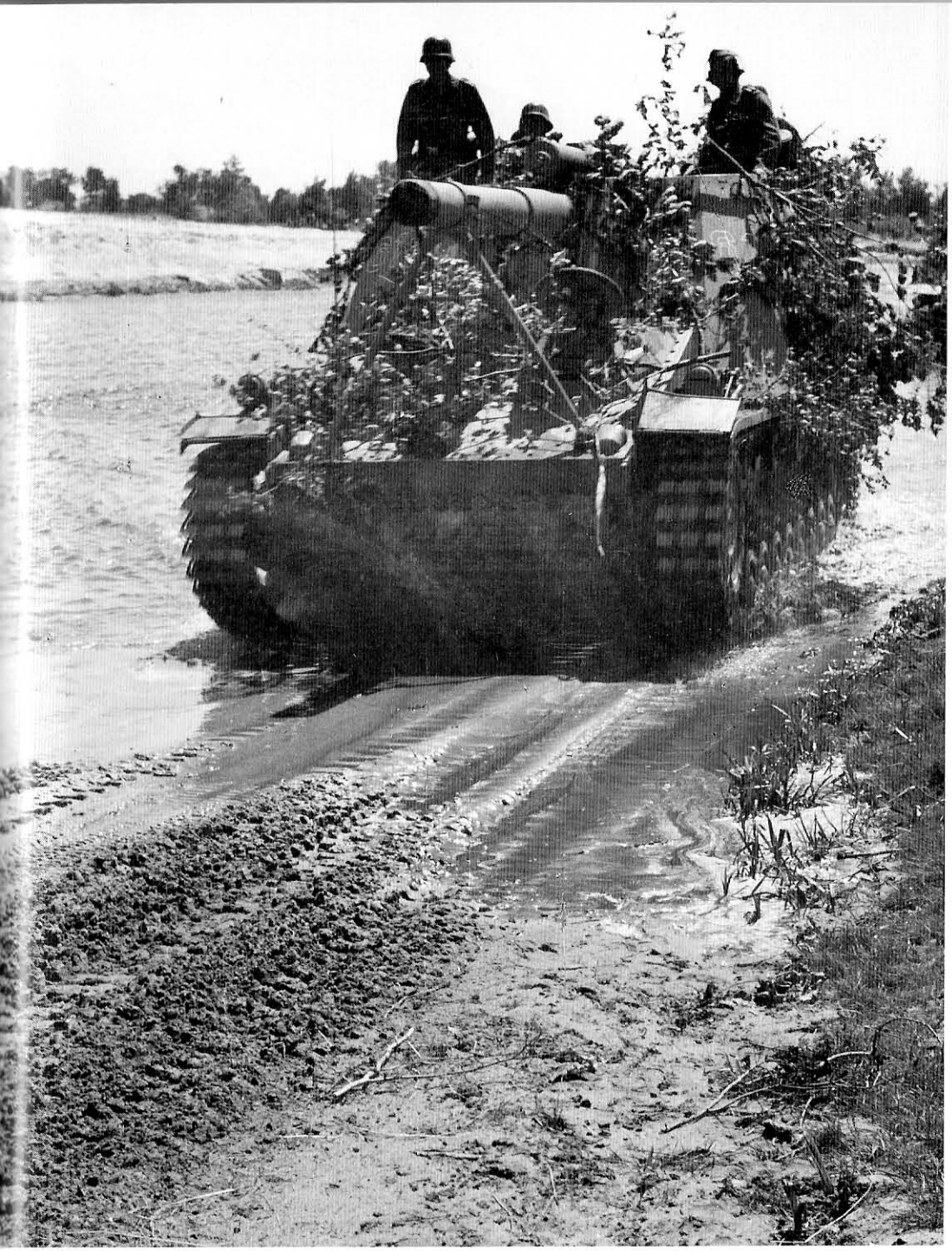


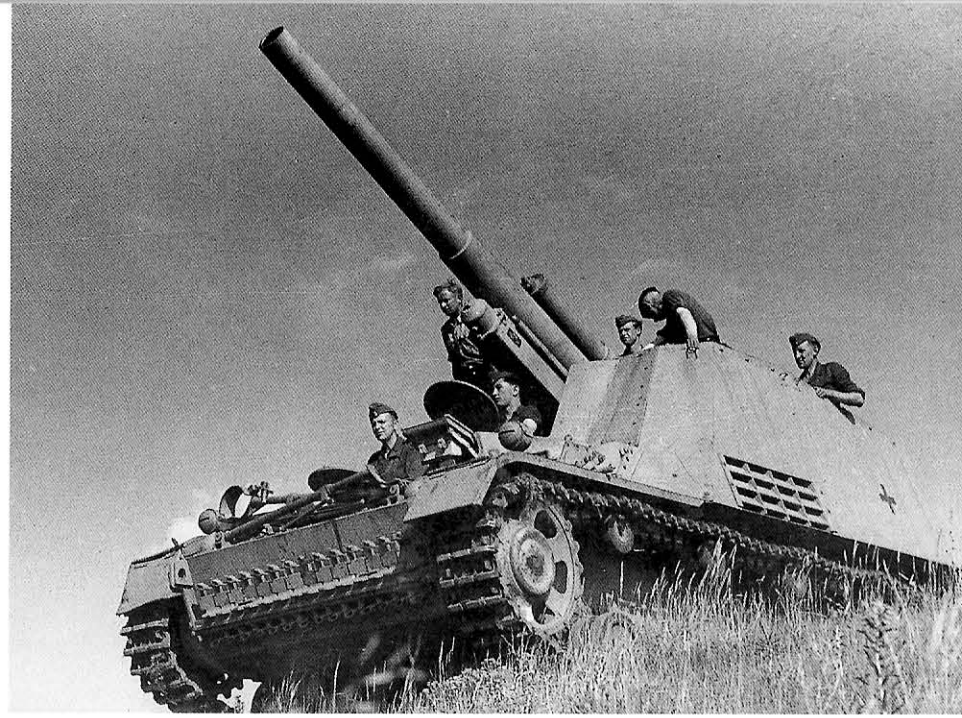
Hummel crew in action. The gun commander receives plotting coordinates, one Kanonier handles the rounds and another is ready to position the rounds in the barrel. The red and white ranging rods are clearly seen in their holders.

The Ostkette (winter tracks) allowed better mobility over soft terrain through decreased ground pressure. Eastern Front, Russia, January 1944.

Italy, 1944. This vehicle pauses from action in an orchard. It was common practice to seek cover during lulls in movement. Note the muzzle cover with its canvas shroud. The pair of Bosch headlights carried on these early model vehicles had slit covers to direct light forward, reducing detectable glare.

Italy, 1944. This column of factory-fresh Hummel awaits direction on the side of a road. The photo was probably taken from another vehicle in the same platoon, given the jovial expressions on the faces of the crew. Hatches on armored vehicles were of minimal size to preserve the integrity of armor plate. The radio operator on the left barely fits through his.



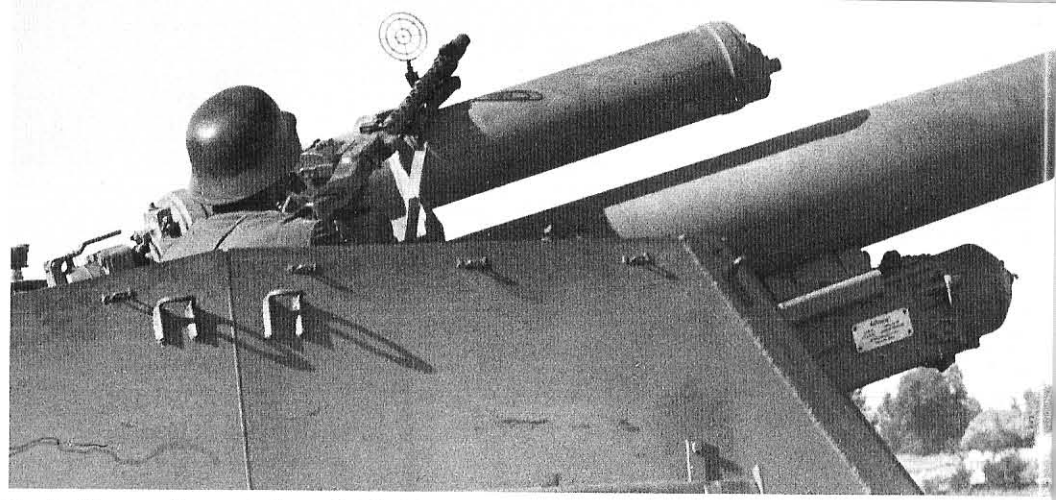


With their foldable barrel locks unclamped, these Hummel are ready to engage targets. The gun commander can be seen with his radio set, awaiting instructions and plotting measurements from the forward artillery observer. Hummel carried two radios for intra-vehicle and command communications, the Funksprechgerät f (FuSprG F) and Bordsprechgerät (BosprG).

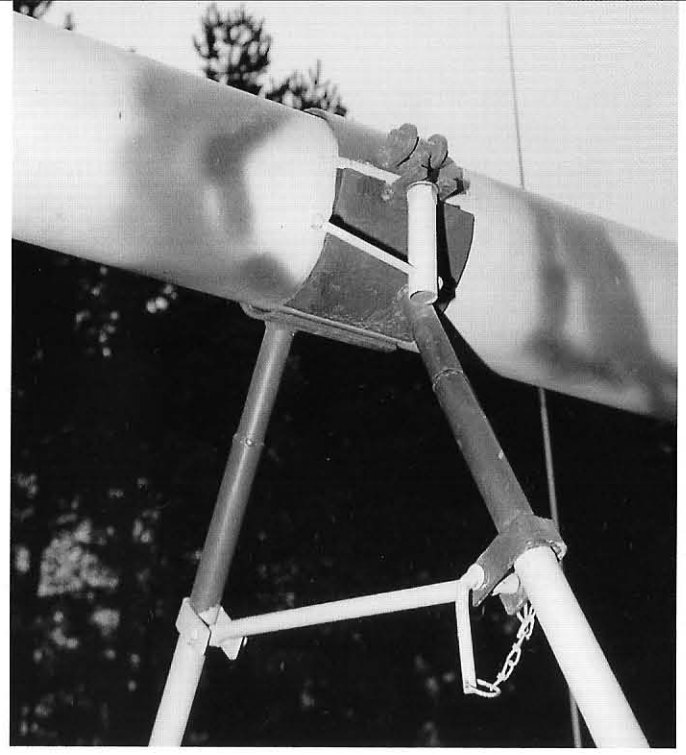
Russia 1943. These extensively camouflaged Hummel advance in open country. From the air, the track marks across the earth could easily betray the location of armored vehicles.

A Kanonier adjusts the elevation of the gun, firing in a flat trajectory. To his immediate left are visible the pneumatic equilibrator cylinder and trunnion bearing. These items were duplicated on the left side of the barrel. Note the support of the curved shield that affixed it to the gun carriage.

Note the cylinders above and below the jacketed barrel that assisted in recoil. The 15 cm caliber of the s.FH 18 brought powerful explosives to bear on Allied positions. The 3. Batterie tactical sign, Bosch headlight, jack, and folded barrel clamps are all visible.



Each Hummel carried an MG 34 or MG 42 machine gun for localized defense. Six hundred rounds were provided. This machine gun has been provided with an AA ring to sight and lead aerial targets. These did not have much of an impact against the heavily armored Petlyakovs and Sturmoviks that sought the Panzerhaubitze out from the air. Note the custom attachment of the gun-cleaning rod to the side of the superstructure.

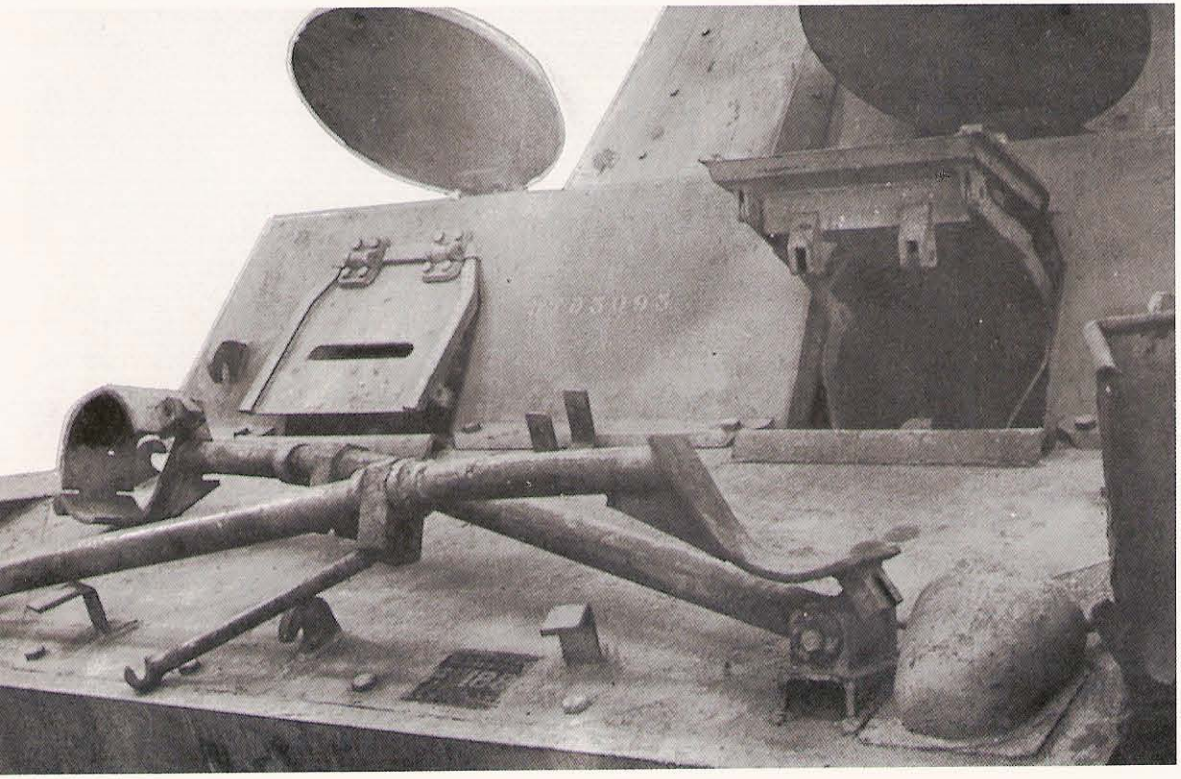


The gun lock mechanism in place for travel. The assembly was unfolded and clamped into place manually. The strut running between the braces was also foldable. This equipment kept the gun from swaying haphazardly.

(Top right)
This Hummel displays a customized road wheel attachment configuration on the oblique hull plates. The thin ropes woven across the superstructure facilitated the attachment of vegetation. The metal plate covering the louvers was sometimes affixed to keep large foreign matter from damaging the engine.

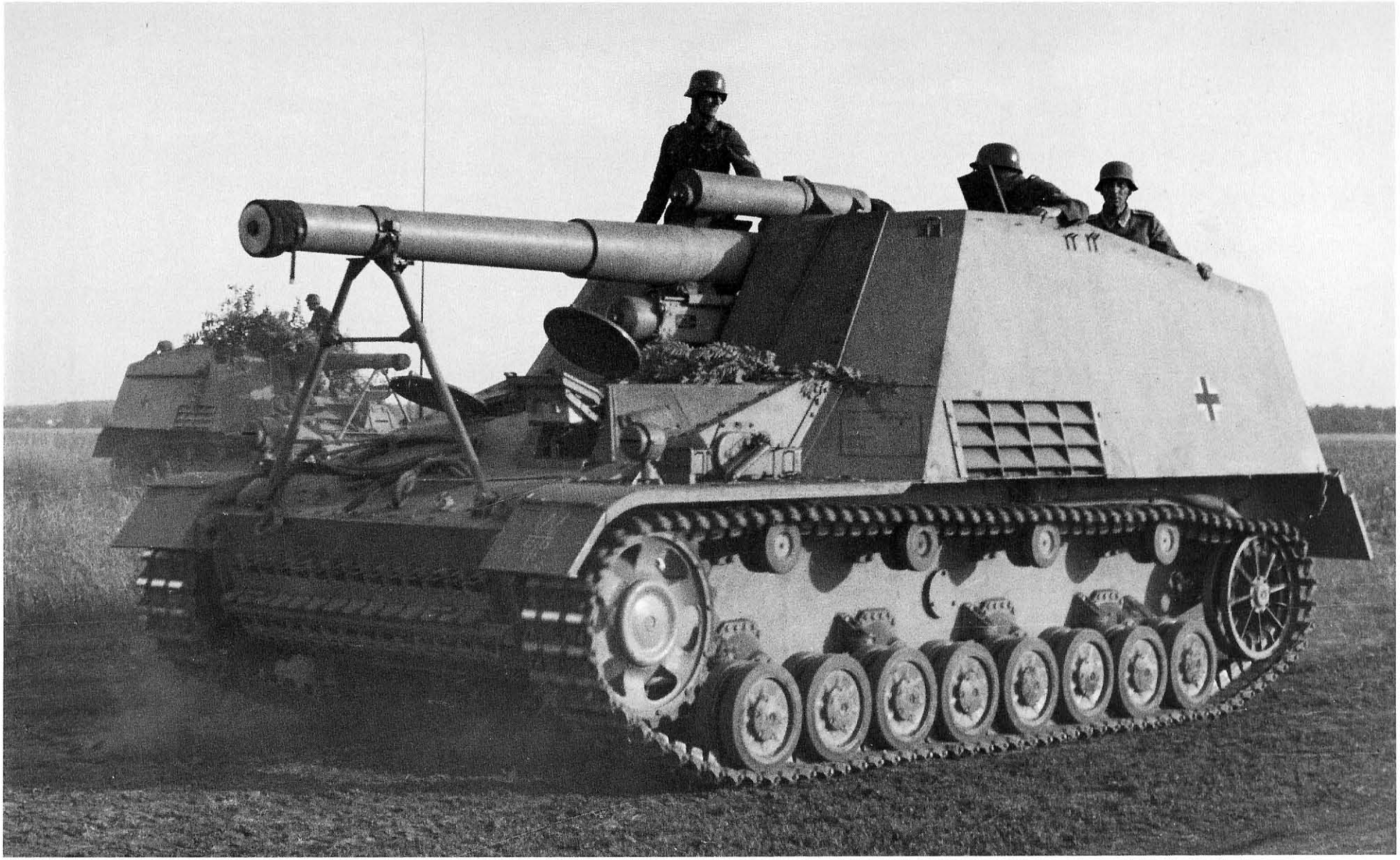
Two crewmen are outside the photo or in the driving compartment, as the typical complement was seven men. Though each had specific tasks, Kanoniere could cover a wounded or killed comrade. Note the barrel plug, "waffle-iron" jack base plate, and tactical sign of the 3. Batterie.

This close-up shot of the driver's compartment gives a good impression of the size of the roof-mounted access hatch, and front and side vision ports. The braces seen projecting from the lowest part of the front vision port would have held a block of thick, protective glass. This is missing. Note how the whole front piece could be lifted to provide better vision when driving in non-combat conditions.



A crewman disengages the foldable gun travel clamp. The tow cable lays at his feet. Note the thick glass block under the open visor that protected the driver. The mudflap in the foreground was pinned in place and spring-assisted. These were often lost in cross-country conditions.

This vehicle had the gun-cleaning rod mounted in welded holders to the side of the superstructure. The brush has been detached from the rod. Note the rubber hose to the right of the seated crewmember. This was used to replenish the fluid of the recoil cylinders.



Russia, summer 1943. The tactical sign on the fender denotes the 3. Batterie, but incorrectly indicates wheeled transport. The 1. and 2. Batterie of Pz.Art.Abt. were usually the 10,5 cm le.FH.18(M) L/28 bearing "Wespe" vehicles. The classification data is stenciled in black on the plate just to the left of the engine louvers. The vehicle in the rear has the cleaning rod for the gun tube mounted to the superstructure, allowing the crew quick access to the instrument and sparing them the effort of having to collapse it for storage.

Russia, July 1943. This Hummel bears an inverted double-T on the left front fender. These symbols were found on vehicles of the 2. SS-Panzer Division "Das Reich" for exclusive use in the Kursk campaign. Variations of this symbol replaced traditional division insignia to confuse the Soviets.

This vehicle from the same unit still retains the large mudflaps behind the rear tracks. These were often lost in hard maneuvering. Note the early version muffler, and the pea-pattern camouflage uniforms of the SS-men. The Balkenkreuz is in its typical location.

Russia, 1943. This early version vehicle sports an elaborate field applied camouflage scheme. Note the tactical sign on the fender, the tow cables on the glacis plate, and the combination of solid and hollow guide-horn spare track links.

Russia, 1943. This Hummel crew pauses well behind the front lines for snapshots. The gun travel clamp was unfolded from the hull and attached manually to the barrel. The strut between the arms was always affixed to the left support, and pivoted into position to steady the frame.

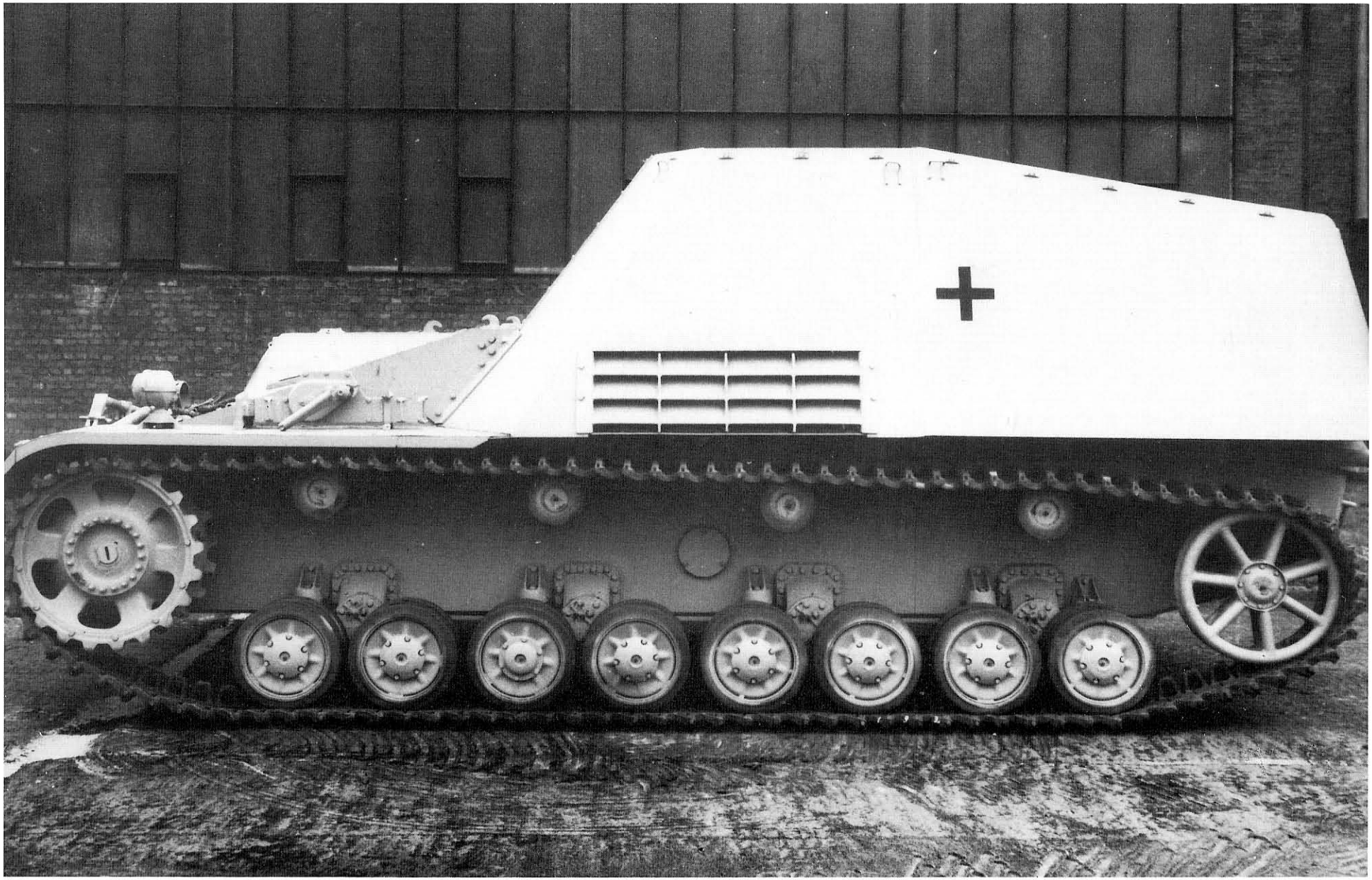

"Scharnhorst" of the same unit. In addition to the spares on the rear hull, a third road wheel seen here was attached to the glacis plate inside the towing cable. The wood beams resting on the cross brace of the barrel support were used as poles to support the camouflage net. The license was painted directly onto the hull of the vehicle, and the swastika pennant was more patriotic than an identification symbol.

Polish Galicia, October 1943, during railroad unloading. The 9. SS-Pz. Div. "Hohenstaufen" made significant field modifications to their Hummel, and attached one spare road wheel to either side of the access doors. These vehicles are of the Pz.Ar.Rg. 1. The screens over the fighting compartment protected the crew from grenades and inclement weather, as tarps were drawn over the framework.

"Clausewitz" carried a pair of telescoping poles to either side of the gun barrel. They were attached to the front superstructure at one end and the glacis plate at the other. The poles supported the netting in camouflaged field positions.

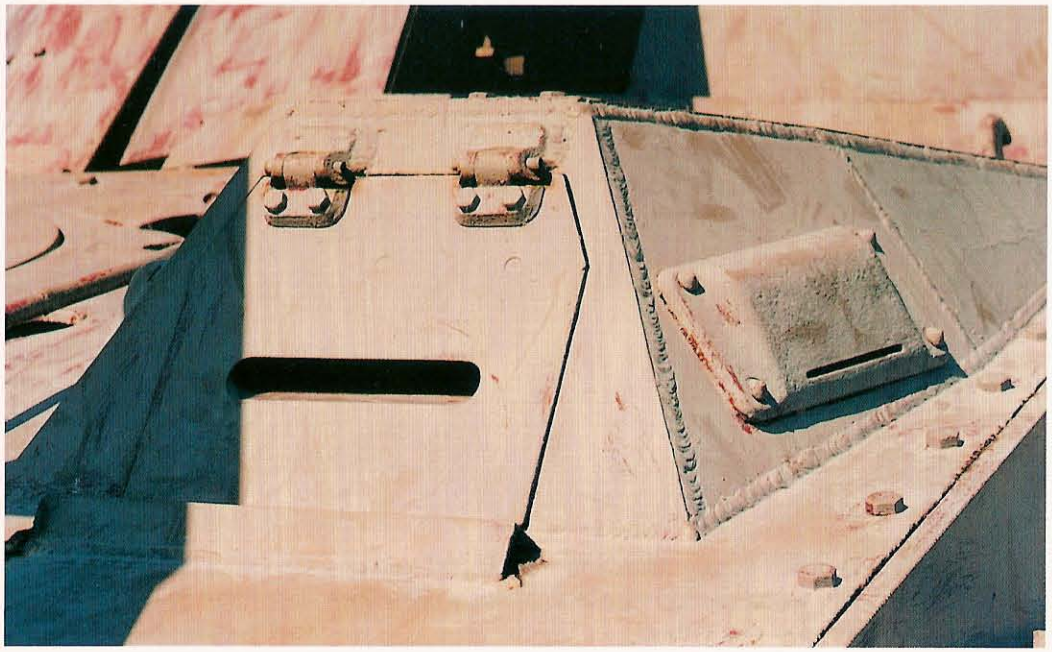

Panzerhaubitze "Clausewitz", of the same unit. Note the gun brace detail, and the leather strapped muzzle cap. Intricate camouflage netting emerged during the war to hide the sharp silhouettes of armored vehicles. It was very easily stored and local vegetation could be inserted for enhanced effect.

This Volkswagen type 166 "Schwimmwagen" (Kfz. 1/20) of the artillery battery features a tactical sign with the letter "s", meaning "schwere" (heavy). The last two vehicles are Munitionsträger Hummel. These brand new vehicles would be additionally modified after arrival with appropriate snow camouflage.



This profile view reveals the tarp hooks along the top rim of the fighting compartment, as well as the lifting hooks on top of the driver's compartment. These allowed the armor plate to be removed by overhead cranes for field repairs.

The early version 15cm Panzerhaubitze 18 at the Panzermuseum Munster, North Germany. This view into the driver's compartment shows the fire extinguisher and front vision port mechanism in the open position. The downward pointing brackets held a block of thick glass, now missing.



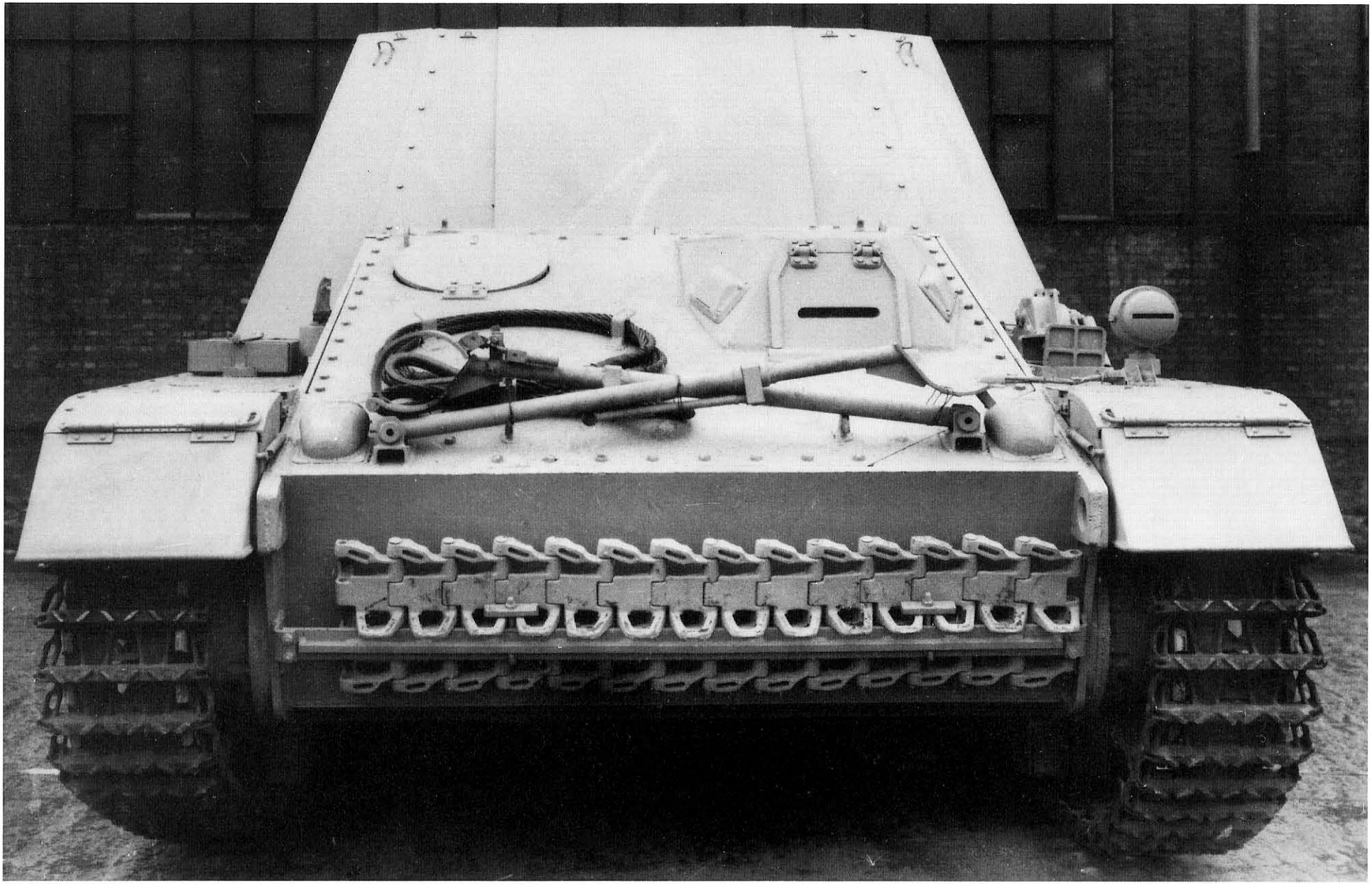
The downturned hooks on the top of the hull crew compartment allowed the armor plate to be lifted in case of repairs. The treadplate of the fender in the lowest portion of the photo is not an original pattern.

The driver's front vision port in the closed position. The side vision slits were narrow to minimize the entry of shrapnel and bullets, but just barely wide enough to allow for vision.

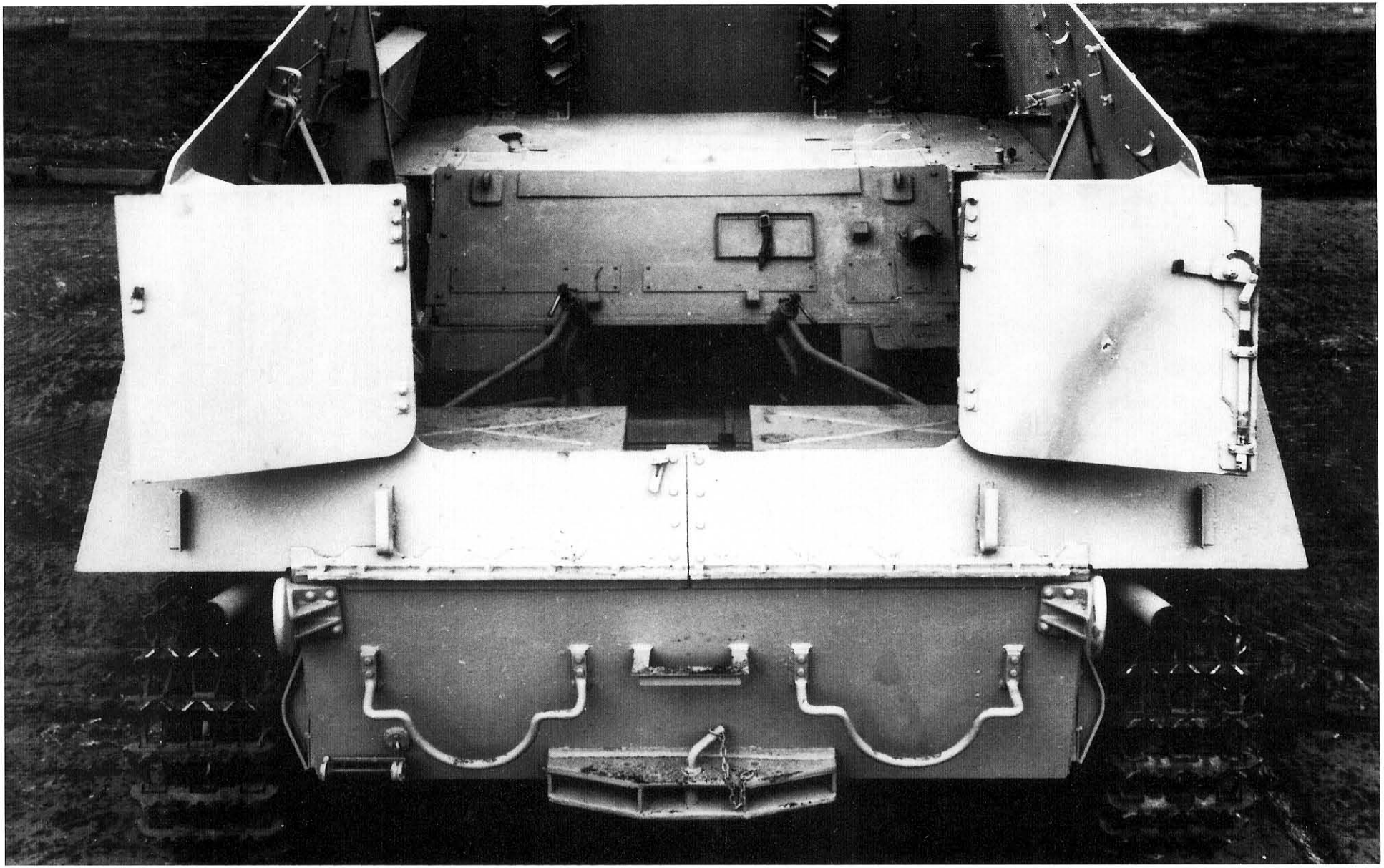
The Hummel are prepared for unloading. Crewmen pry apart the track from the frozen surface of the flatcar. Note the hollow guide horns of the earlier type track links.

The track locks are released from the railcar platforms, freeing the vehicle for movement. Note the towing bracket bolted to the edge of the lower hull. The mesh screen jacket for the muffler protected crewmen from the hot surface.

The Fahrer (driver) of Panzerhaubitze "Blücher" is carefully guided off the platform. These two axle flatcar wagons are of standard gauge width (1435mm), as this gauge was used throughout Europe with the exception of Spain. The Soviet Union employed the wide gauge (1528mm) rail tracks, a significant challenge to German logistics.

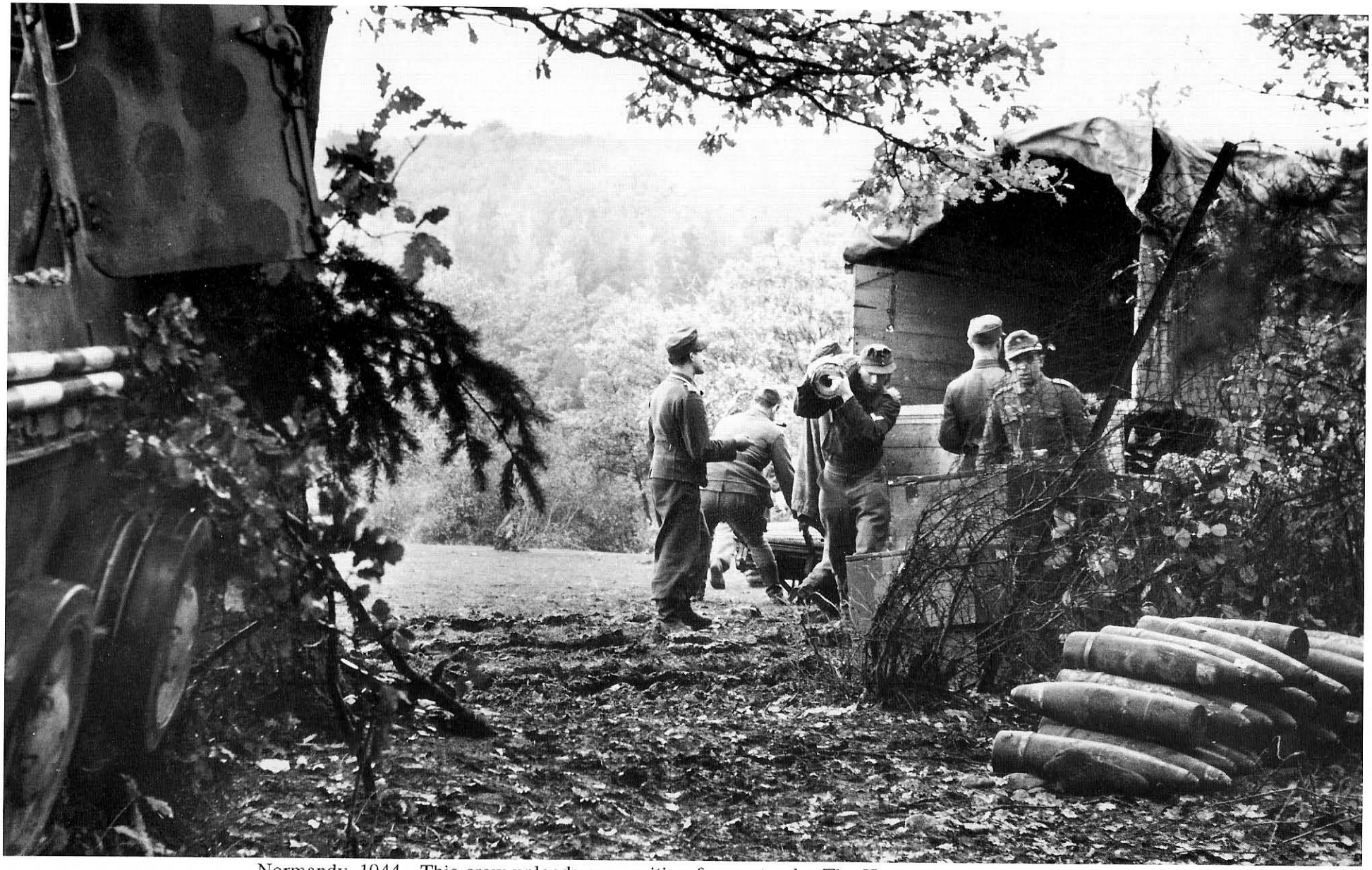


Along with a howitzer-bearing version, 157 Munitionsträger (ammunition carrier) were built to accompany the Hummel batteries. A front plate of 10mm thickness covered the gun opening, and could be removed to install an s.FH 18 if needed.



Rear view of the ammunition carrier. The sloped plate in the lower midsection of the fighting compartment protected the engine. To the right of this plate can be seen a small pipe outlet, which allowed warm air to vent from the heating coil. Note the gun cradle locks are provided despite the absence of a gun.

The unloading of ammunition demonstrates why seven crewmen were needed to keep the gun firing at a maximum pace. The radioman and driver assisted as loaders during firing. Piles of rounds are stacked for sustained fire. Crews were understandably nervous during this process with the fear of aerial attack.

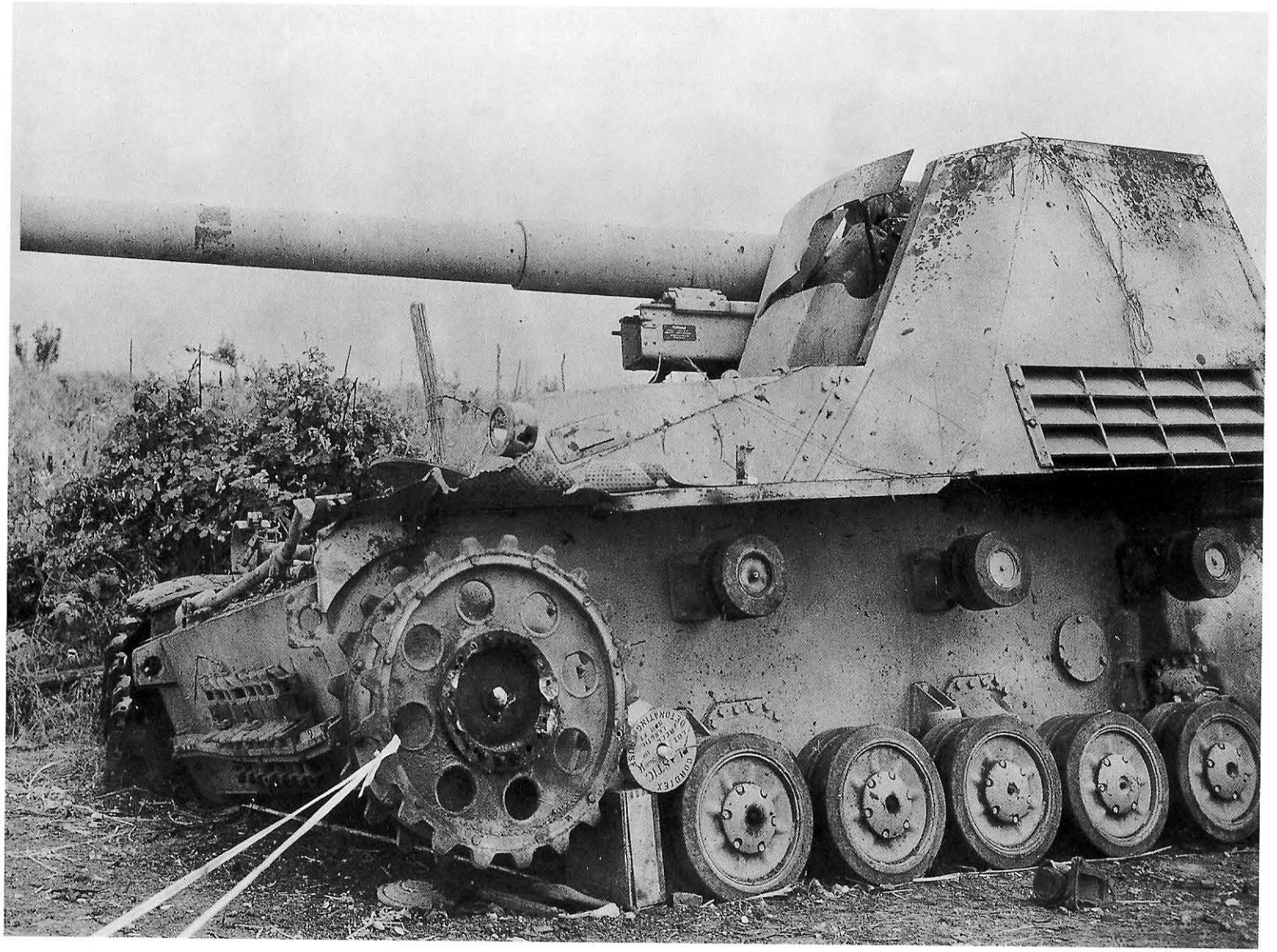


Normandy, 1944. This crew unloads ammunition from a truck. The Hummel on the extreme left of the photo and the truck itself have each been extensively camouflaged against the eyes of allied reconnaissance aircraft. Because of indirect fire methods, the howitzer could fire from the thickest of forests and other congested locations.

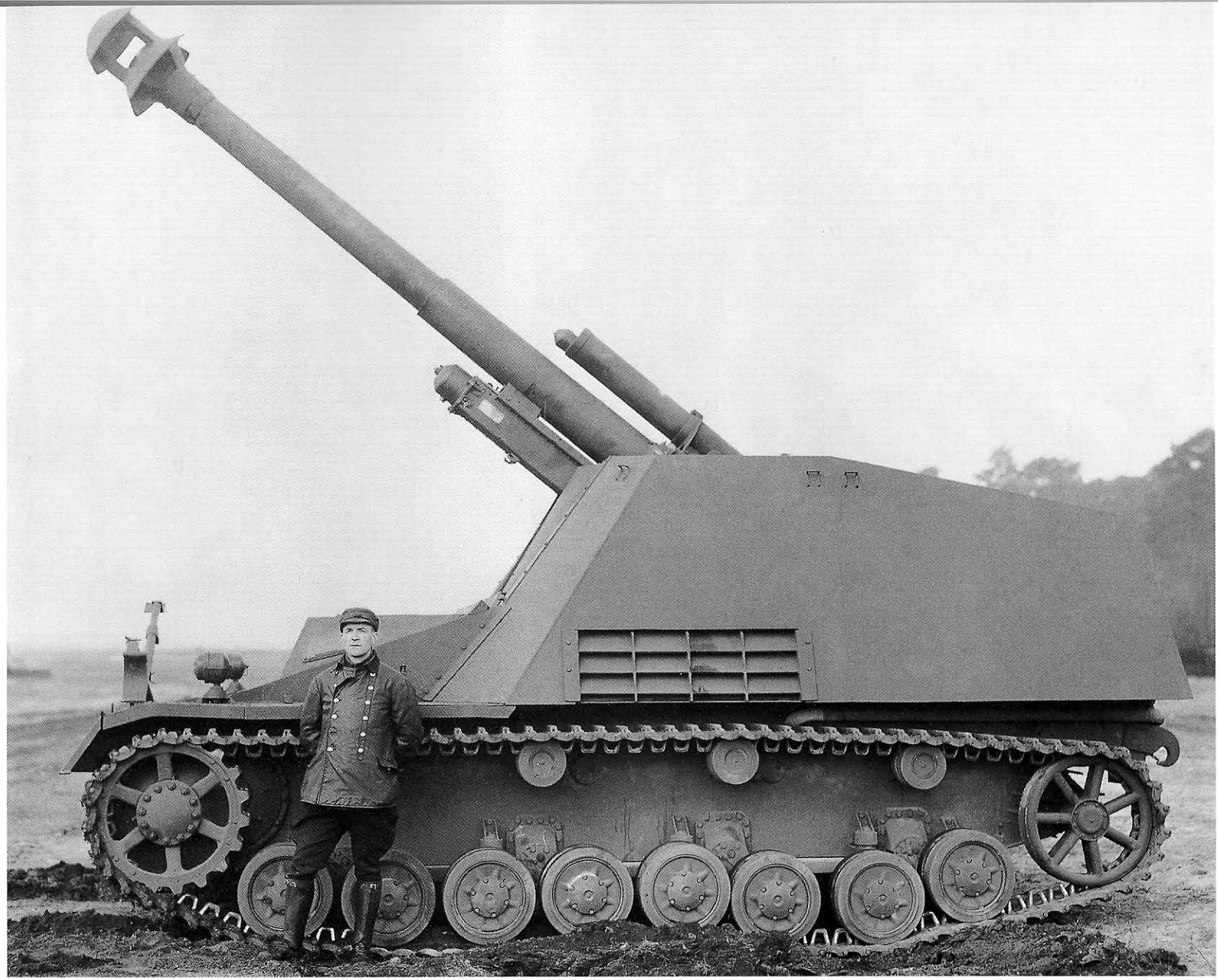
Wicker baskets protected the rounds from the jostling effects of transport. This late model vehicle is preparing for sustained fire, given the ready rounds stacked at the hull rear on top of the internal shell cabinets. Note the tri-color paint scheme evidenced on the right rear door. Late war German vehicles bearing camouflage on interior surfaces testify of an anxiety to avoid detection.

This late model vehicle in Normandy features the full compartment added for the radio operator's comfort and visibility. This change was made in early 1944. Allied air superiority and defensive operations dictated that German vehicle crews take measures to conceal their equipment. This vehicle sports a heavy mottling of airbrushed camouflage, along with branches to break up its silhouette.

This late model vehicle has a thin plate of armor over the engine air intake louvers. It is missing its headlight, as this version carried only one Bosch headlight on the left treadplate fender. Shadow gives good definition to the circular plate cover of the preheating system for the cooling water, located in the middle of the lower hull.



Positioned behind front lines, Hummel were only employed in the antitank role if overrun. The effect of return fire into its thin armor, however, is clearly manifest. The drive sprocket is from a Pz.Kpfwg. III, Ausf. E, which was used in the very earliest production run. The wheel could also have been received during a field repair. Detonation caps were applied to neutralize booby-trapped vehicles.

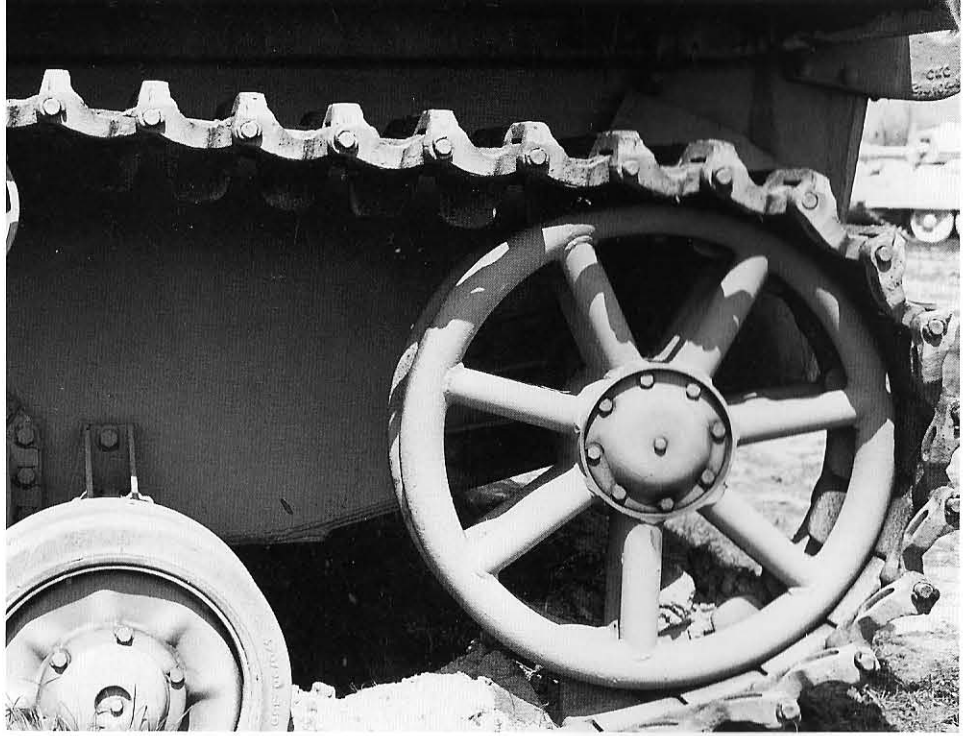


The first prototypes produced by Alkett carried a muzzle brake, reducing barrel strain when firing high velocity charges. This feature was left out of the production run and saved the expense involved in its manufacture. The high velocity charges, numbers 7 and 8, could be fired anyway, but their use was carefully restricted.

Russia, 1943. Note the dust, mounted vegetation, and mottled field-applied camouflage. Each vehicle crew was trained in the basic maintenance of their vehicle, and here replace the track pins with the tools carried in the fighting compartment.

Ostfront (Eastern Front), summer 1943. The same crew has removed the rear idler wheel, note its shaft placed upright nearby. While the tarp is in place, the fastening hooks for the canvas where also used to suspend the personal items of the crew, as seen on the right rear door.

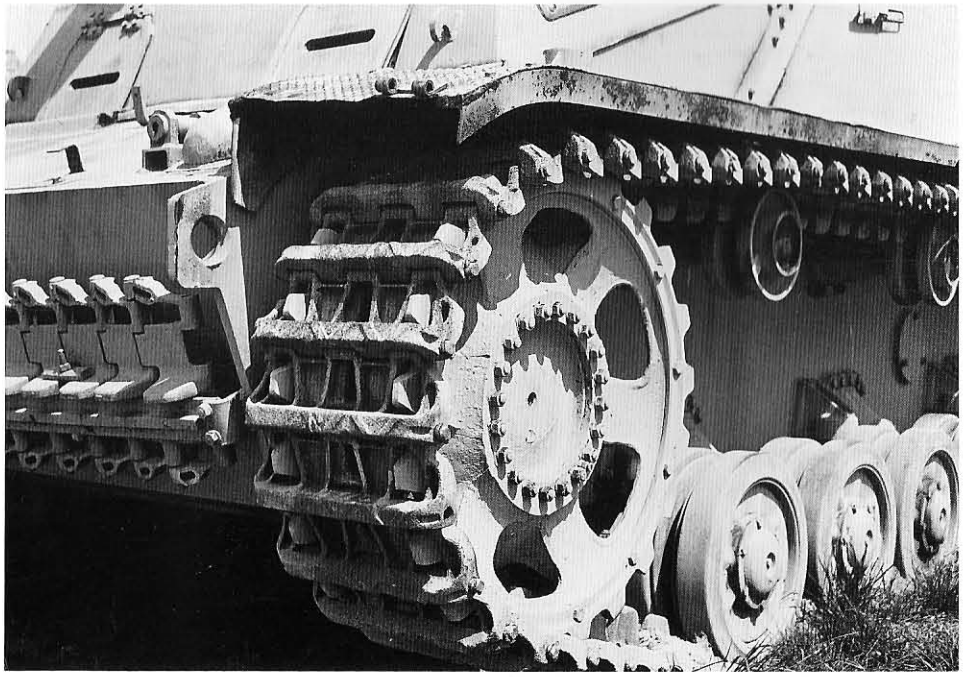
Normandy, late 1944. Note the characteristic bocage of the French countryside. Pushed aside in the wake of the allied advance, this early model vehicle is missing the entire right track and a rubber return roller, probably lost at the same time.

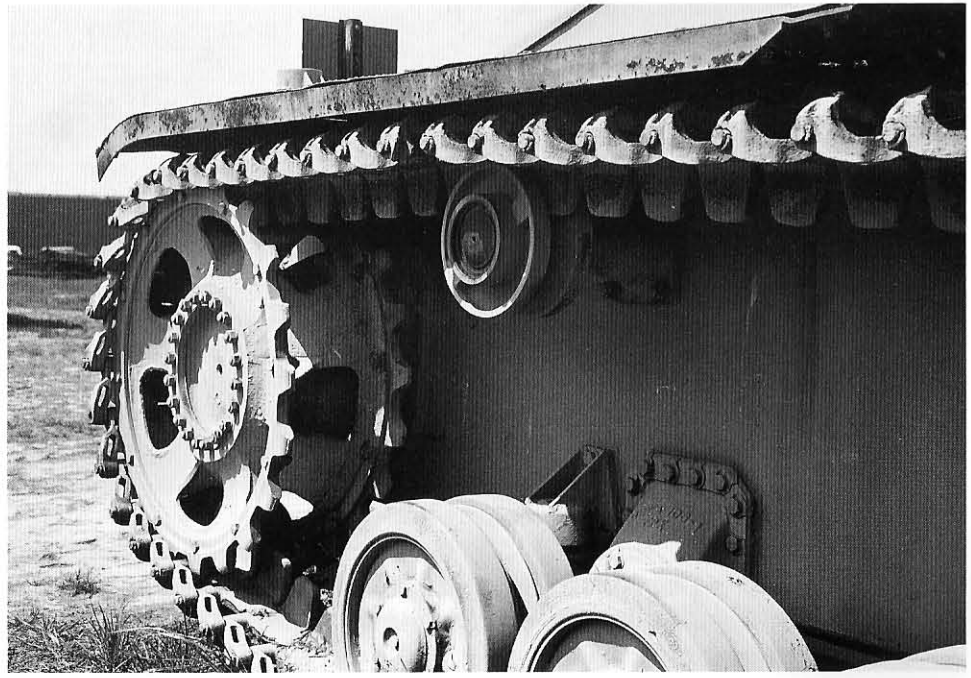


Detail view of the lower left rear hull. The steel return roller and standard Pzkpfw IV (Ausf. F-early H) rear idler wheel of the late model are each visible. Also note the housing for one of the eight leaf spring units. Dampers for the suspension arms are to either side.

Detail view of the lower left forward hull. The track bar and spare track are in place. This portion of the hull carried a 20mm thick armor plate at an angle of 20°. The spare track gave additional protection. Also note the towing bracket. The end portion of the fender is missing.

Detail view of the lower left forward hull. The steel rimmed return rollers replaced the rubber found in the first model of the Hummel. The use of rubber was reduced as much as possible from many German vehicles later in the war to conserve the material.





"Anton", Panzermuseum Munster's finely restored vehicle, pauses in the Panzer Testing Ground "Kohlenbissen" on 21 August, 1993. This is the only surviving early version and was kept for many years at the Patton Museum, Fort Knox, Kentucky. In 1976, it was given to the Kampftruppenschule 2 (KTS 2) of the Bundeswehr. The Panzerwerkstatt (Panzer Maintenance Shop) of the KTS 2 restored the vehicle to running order in 1982.

Most Hummel had the Balkenkreuz applied to the far end of the crew compartment superstructure. This denied enemy gunners a central aiming point, a trick learned from hard experience. This early model would have carried two Bosch headlights. The remaining light is missing its blackout cover. The brackets for the jack are just behind this light on the fender. It, too, is missing.

"Anton" bears a camouflage scheme that matches as closely as possible the three original colors available for use: basic dunkelgelb, or yellow tan, green RAL6013 and brown RAL8017. The pipe framework over the crew compartment may remain from the wartime vehicle as part of an anti-grenade barrier. It does not, however, appear to be original.

Restored "Anton" sports modern-style camouflage netting, though the practice of using netting was common in the history of the vehicle. This view shows the later spare road wheel configuration on the lower hull rear. Note the Balkenkreuz and the tactical sign representing a fully tracked artillery piece.

# the latest in the RYTON MILITARY SERIES

**Books published by Ryton Publications**

Sturmgeschütz
Schwere Panzer in Detail
Panther in Detail
Militärfahrzeuge of the Wehrmacht, Vol.1
Tiger I and Sturmtiger in Detail
Panzertruppe
Die Wehrmacht, Vol.1

**Titles planned in the new Ryton Series**

| | |
|---|---|
| Vol. 1 | Hummel |
| Vol. 2 | 2cm Flak |
| Vol. 3 | Panzer IV - Part 1 |
| Vol. 4 | Sturmpanzer |
| Vol. 5 | Panzer III |
| Vol. 6 | Zugmaschinen |
| Vol. 7 | Tiger I close-up |
| Vol. 8 | Panzer IV Part II |
| | to be continued |

Ryton Publications encourages you to purchase our books at your local bookstore, hobbyshop, or mail order company. If you have difficulty in finding the above mentioned titles, please write to:

Ryton Publications
P.O. Box 2306
Bellingham, Wa. 98227 - U.S.A.